Financial Statement Analysis

Chapter 14 – Part I

Financial Statement Analysis

Stockholders, creditors, and managers are examples of stakeholders that use financial statement analysis to evaluate a company’s financial health and future prospects.

Stockholders and creditors: estimate its potential for earnings growth, stock price appreciation, dividend payments, paying principal and interests on loans.

Managers: understand how their company’s financial results will be interpreted by stockholders and creditors; feedback on their company’s performance.

Limitations of Financial Statement Analysis

Differences in accounting methods between companies sometimes make comparisons difficult.

We use the LIFO method to value inventory.	We use the average cost method to value inventory.

Looking Beyond Ratios

Managers should look beyond the ratios.

Industry trends

Consumer tastes

Changes within the company

Technology changes

Economic factors

Learning Objective 1

Prepare and interpret financial statements in comparative and common-size form.

Key Concept

An item on a financial statement has little meaning by itself. The meaning of the numbers can be enhanced by drawing comparisons using:

❶ Dollar and percentage changes on statements

❷ Common-size statements

❸ Ratios

Dollar and Percentage Changes on Statements

Horizontal analysis (or trend analysis) shows the changes between years in the financial data in both dollar and percentage form.

Quantifying **dollar changes** over time serves to highlight the changes that are the most important **economically.**

Quantifying **percentage changes** over time serves to highlight the changes that are the most **unusual.**

Horizontal Analysis – Part 1

The following slides illustrate a horizontal analysis of Clover Corporation's comparative balance sheets and comparative income statements for this year and last year.

Horizontal Analysis – Part 2

CLOVER CORPORATION Comparative Balance Sheets December 31				
			Increase (Decrease)	
	This Year	Last Year	Amount	%
Assets				
Current assets:				
Cash	$ 12,000	$ 23,500		
Accounts receivable, net	60,000	40,000		
Inventory	80,000	100,000		
Prepaid expenses	3,000	1,200		
Total current assets	155,000	164,700		
Property and equipment:				
Land	40,000	40,000		
Buildings and equipment, net	120,000	85,000		
Total property and equipment	160,000	125,000		
Total assets	$ 315,000	$ 289,700		

Horizontal Analysis – Part 3

Calculating Change in Dollar Amounts

Dollar Change	=	Current Year Figure	–	Base Year Figure

The dollar amounts for last year become the "base" year figures.

Horizontal Analysis – Part 4

Calculating Change as a Percentage

$$\boxed{\text{Percentage Change}} = \boxed{\frac{\text{Dollar Change}}{\text{Base Year Figure}}} \times \boxed{100\%}$$

Horizontal Analysis – Part 5

CLOVER CORPORATION
Comparative Balance Sheets
December 31

			Increase (Decrease)	
	This Year	Last Year	Amount	%
Assets				
Current assets:				
Cash	$ 12,000	$ 23,500	$ (11,500)	(48.9)
Accounts receivable, net	60,000	40,000		
Inventory	80,000	100,000		
Prepaid expenses	3,000	1,200		
Total current assets				
Property and equipmen				
Land	40,000	40,000		
Buildings and equ				
Total property and				
Total assets				

$12,000 – $23,500 = $(11,500)

Buildings and equipment, net % =
($11,500 ÷ $23,500) × 100% = (48.9%)

Horizontal Analysis – Part 6

CLOVER CORPORATION Comparative Balance Sheets December 31				
			Increase (Decrease)	
	This Year	Last Year	Amount	%
Assets				
Current assets:				
Cash	$ 12,000	$ 23,500	$ (11,500)	(48.9)
Accounts receivable, net	60,000	40,000	20,000	50.0
Inventory	80,000	100,000	(20,000)	(20.0)
Prepaid expenses	3,000	1,200	1,800	150.0
Total current assets	155,000	164,700	(9,700)	(5.9)
Property and equipment:				
Land	40,000	40,000	-	0.0
Buildings and equipment, net	120,000	85,000	35,000	41.2
Total property and equipment	160,000	125,000	35,000	28.0
Total assets	$ 315,000	$ 289,700	$ 25,300	8.7

Horizontal Analysis – Part 7

We could do this for the liabilities and stockholders' equity, but now let's look at the income statement accounts.

Horizontal Analysis – Part 8

CLOVER CORPORATION Comparative Income Statements For the Years Ended December 31				
			Increase (Decrease)	
	This Year	Last Year	Amount	%
Sales	$520,000	$480,000		
Cost of goods sold	360,000	315,000		
Gross margin	160,000	165,000		
Operating expenses	128,600	126,000		
Net operating income	31,400	39,000		
Interest expense	6,400	7,000		
Net income before taxes	25,000	32,000		
Less income taxes (30%)	7,500	9,600		
Net income	$ 17,500	$ 22,400		

Horizontal Analysis – Part 9

CLOVER CORPORATION
Comparative Income Statements
For the Years Ended December 31

			Increase (Decrease)	
	This Year	Last Year	Amount	%
Sales	$520,000	$480,000	$ 40,000	8.3
Cost of goods sold	360,000	315,000	45,000	14.3
Gross margin	160,000	165,000	(5,000)	(3.0)
Operating expenses	128,600	126,000	2,600	2.1
Net operating income	31,400	39,000	(7,600)	(19.5)
Interest expense	6,400	7,000	(600)	(8.6)
Net income before taxes	25,000	32,000	(7,000)	(21.9)
Less income taxes (30%)	7,500	9,600	(2,100)	(21.9)
Net income	$ 17,500	$ 22,400	$ (4,900)	(21.9)

Horizontal Analysis – Part 10

CLOVER CORPORATION Comparative Income Statements For the Years Ended December 31				
			Increase (Decrease)	
	This Year	Last Year	Amount	%
Sales	$520,000	$480,000	$ 40,000	8.3
Cost of goods sold	360,000	315,000	45,000	14.3
Gross margin	160,000	165,000	(5,000)	(3.0)
Opera			2,600	2.1
Net op			(7,600)	(19.5)
Intere			(600)	(8.6)
Net income before taxes	25,000	32,000	(7,000)	(21.9)
Less income taxes (30%)	7,500	9,600	(2,100)	(21.9)
Net income	$ 17,500	$ 22,400	$ (4,900)	(21.9)

Sales increased by 8.3%, yet net income decreased by 21.9%.

Horizontal Analysis – Part 11

There were increases in both cost of goods sold (14.3%) and operating expenses (2.1%). These increased costs more than offset the increase in sales, yielding an overall decrease in net income.

			rease rease)	
			t	%
Sales	$520,000	$480,000	$ 40,000	8.3
Cost of goods sold	360,000	315,000	45,000	14.3
Gross margin	160,000	165,000	(5,000)	(3.0)
Operating expenses	128,600	126,000	2,600	2.1
Net operating income	31,400	39,000	(7,600)	(19.5)
Interest expense	6,400	7,000	(600)	(8.6)
Net income before taxes	25,000	32,000	(7,000)	(21.9)
Less income taxes (30%)	7,500	9,600	(2,100)	(21.9)
Net income	$ 17,500	$ 22,400	$ (4,900)	(21.9)

Trend Percentages

Trend percentages state several years' financial data in terms of a base year, which equals 100 percent.

Trend Analysis – Part 1

Here is the equation for computing a trend percentage:

$$\text{Trend Percentage} = \frac{\text{Current Year Amount}}{\text{Base Year Amount}} \times 100\%$$

Trend Analysis – Part 2

Look at the income information for Berry Products for the years 1 through 5. We will do a trend analysis on these amounts to see what we can learn about the company.

Trend Analysis – Part 3

Berry Products
Income Information
For the Years Ended December 31

Item	Year				
	1	2	3	4	5
Sales	$275,000	$290,000	$320,000	$355,000	$400,000
Cost of goods sold	190,000	198,000	225,000	250,000	285,000
Gross margin	85,000	92,000	95,000	105,000	115,000

The base year is 1, and its amounts will equal 100%.

Trend Analysis – Part 4

Berry Products
Income Information
For the Years Ended December 31

Item	Year				
	1	2	3	4	5
Sales	100%	105%	116%	129%	145%
Cost of goods sold	100%	104%	118%	132%	150%
Gross margin	100%	108%	112%	124%	135%

Year 2 Amount ÷ Year 1 Amount × 100%

(\$290,000 ÷ \$275,000) × 100% = 105%

(\$198,000 ÷ \$190,000) × 100% = 104%

(\$ 92,000 ÷ \$ 85,000) × 100% = 108%

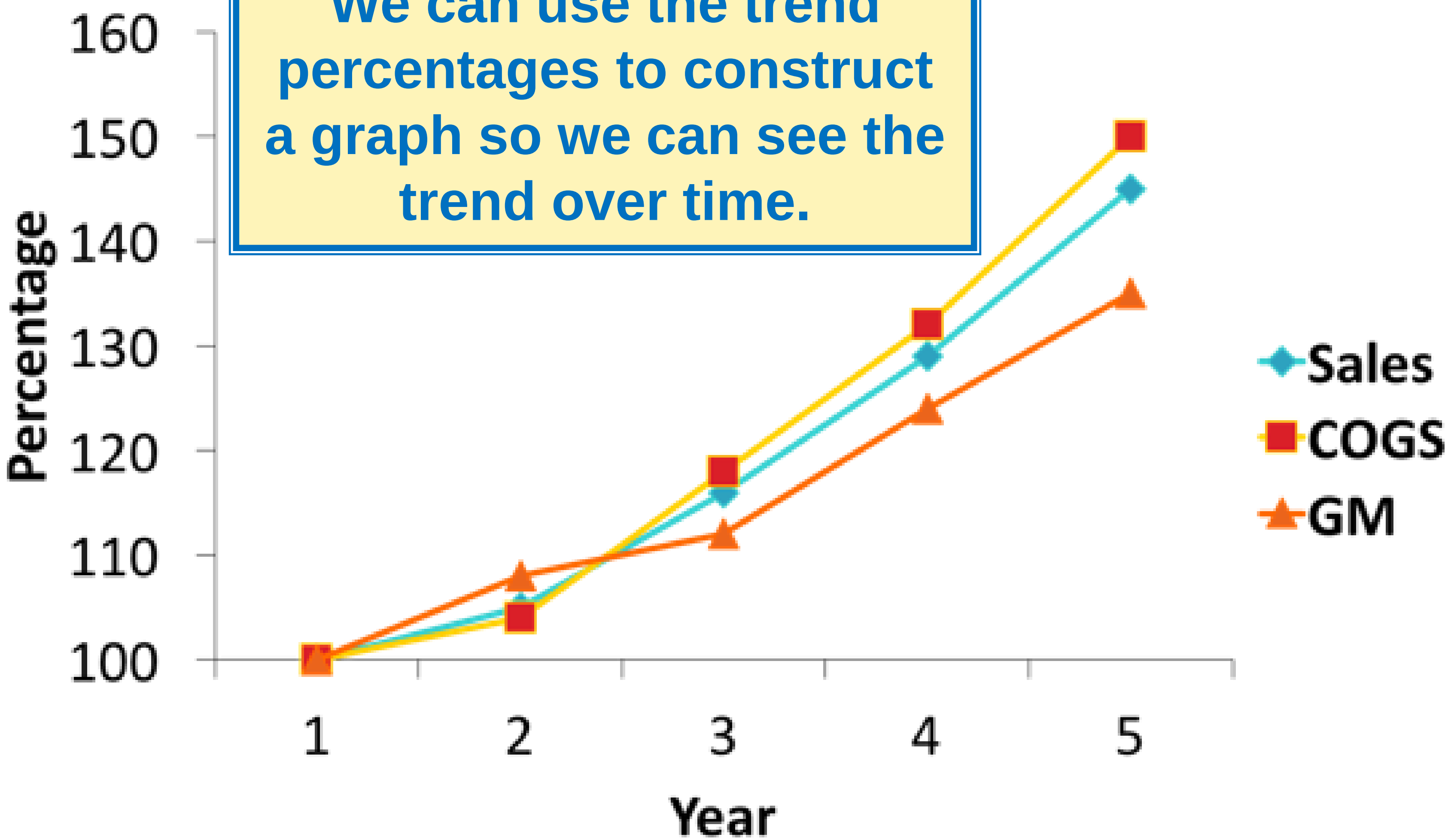
Trend Analysis – Part 5

Berry Products
Income Information
For the Years Ended December 31

Item	Year				
	1	2	3	4	5
Sales	100%	105%	116%	129%	145%
Cost of goods sold	100%	104%	118%	132%	150%
Gross margin	100%	108%	112%	124%	135%

By analyzing the trends for Berry Products, we can see that cost of goods sold is increasing faster than sales, which is slowing the increase in gross margin.

Trend Analysis – Part 6



We can use the trend percentages to construct a graph so we can see the trend over time.

Common-Size Statements – Part 1

Vertical analysis focuses on the relationships among financial statement items at a given point in time.

A **common-size financial statement** is a vertical analysis in which each financial statement item is expressed as a percentage.

Common-Size Statements – Part 2

In balance sheets, all items usually are expressed as a percentage of total assets.

Common-Size Statements – Part 3

In income statements, all items usually are expressed as a percentage of sales.

Common-Size Statements – Part 4

Let's take another look at the information from the comparative income statements of Clover Corporation for this year and last year.

This time, let's prepare common-size statements.

Common-Size Statements – Part 5

CLOVER CORPORATION Comparative Income Statements For the Years Ended December 31			Common-Size Percentages	
	This Year	Last Year	This Year	Last Year
Sales	$520,000	$480,000	100.0	100.0
Cost of goods sold	360,000	315,000		
Gross margin	160,000	165,000		
Operating expenses	128,600	126,000		
Net operating income	31,400	39,000		
Interest expense	6,400	7,000		
Net income before taxes	25,000	32,000		
Less income taxes (30%)	7,500	9,600		
Net income	$ 17,500	$ 22,400		

Sales is usually the base and is expressed as 100%.

Common-Size Statements – Part 6

CLOVER CORPORATION
Comparative Income Statements
For the Years Ended December 31

This Year's Operating Expenses ÷ This Year's Sales × 100%
($128,600 ÷ $520,000) × 100% = 24.8%

			Common-Size Percentages	
	This Year	Last Year	This Year	Last Year
Sales	$520,000	$480,000	100.0	100.0
Cost of goods sold	360,000	315,000	69.2	65.6
Gross margin	160,000	165,000	30.8	34.4
Operating expenses	128,600	126,000	24.8	26.2
Net operating income	31,400	39,000	6.0	8.2
Interest expense	6,400	7,000	1.2	1.5
Net income before taxes	25,000	32,000	4.8	6.7
Les				
Net				

Last Year's Operating Expenses ÷ Last Year's Sales × 100%
($126,000 ÷ $480,000) × 100% = 26.2%

Common-Size Statements – Part 7

CLOVER CORPORATION Comparative Income Statements For the Years Ended December 31				
What conclusions can we draw?			Common-Size Percentages	
	This Year	Last Year	This Year	Last Year
Sales	$520,000	$480,000	100.0	100.0
Cost of goods sold	360,000	315,000	69.2	65.6
Gross margin	160,000	165,000	30.8	34.4
Operating expenses	128,600	126,000	24.8	26.2
Net operating income	31,400	39,000	6.0	8.2
Interest expense	6,400	7,000	1.2	1.5
Net income before taxes	25,000	32,000	4.8	6.7
Less income taxes (30%)	7,500	9,600	1.4	2.0
Net income	$ 17,500	$ 22,400	3.4	4.7

Concept Check 1

Which of the following statements describes horizontal analysis?

a. A statement that shows items appearing on it in percentage and dollar form.

b. A side-by-side comparison of two or more years' financial statements.

c. A comparison of the account balances on the current year's financial statements.

d. None of the above.

Concept Check 1a

Which of the following statements describes horizontal analysis?

a. A statement that shows items appearing on it in percentage and dollar form.

b. A side-by-side comparison of two or more years' financial statements.

Horizontal analysis shows the changes between years in the financial data in both dollar and percentage form.

Exercise

A comparative income statement of McKenzie Sales is given below:

McKenzie Sales, Ltd.
Comparative Income Statement

	This Year	Last Year
Sales	$8,000,000	$6,000,000
Cost of goods sold	4,984,000	3,516,000
Gross margin	3,016,000	2,484,000
Selling and administrative expenses:		
Selling expenses	1,480,000	1,092,000
Administrative expenses	712,000	618,000
Total expenses	2,192,000	1,710,000
Net operating income	824,000	774,000
Interest expense	96,000	84,000
Net income before taxes	$ 728,000	$ 690,000

Members of the company's board of directors are surprised to see that net income increased by only $38,000 when sales increased by $200,000.

Required:

1. Express each year's income statement in common-size percentages. Carry computations to one decimal place.
2. Comment briefly on the changes between the two years.

Solution 1.

1.		This Year		Last Year	
	Sales	100.0	%	100.0	%
	Cost of goods sold	62.3		58.6	
	Gross margin	37.7		41.4	
	Selling and administrative expenses:				
	Selling expenses	18.5		18.2	
	Administrative expenses	8.9		10.3	
	Total selling and administrative expenses	27.4		28.5	
	Net operating income	10.3		12.9	
	Interest expense	1.2		1.4	
	Net income before taxes	9.1	%	11.5	%

Solution II

The company's major problem seems to be the increase in cost of goods sold, which increased from 58.6% of sales last year to 62.3% of sales this year. This suggests that the company is not passing the increases in costs of its products on to its customers. As a result, cost of goods sold as a percentage of sales has increased and gross margin has decreased. This change has been offset somewhat by reduction in administrative expenses as a percentage of sales. Note that administrative expenses decreased from 10.3% to only 8.9% of sales over the two years. However, this decrease was not enough to completely offset the increased cost of goods sold, so the company's net income decreased as a percentage of sales this year.