

## Unit 16 Financial Statement Analysis, Part II

### I. Trend Analysis of Sales Revenue, Cost of Goods Sold, and Gross Profit

<b>Quick Company Income Statements For Period Ending December 31, 2001</b>					
	1997	1998	1999	2000	2001
Sales Revenue	\$4,000,000	\$5,200,000	\$6,500,000	\$7,475,000	\$8,222,500
Cost of Goods Sold	<u>2,000,000</u>	<u>2,400,000</u>	<u>2,760,000</u>	<u>3,036,000</u>	<u>3,339,600</u>
<b>Gross Profit</b>	<u><u>\$2,000,000</u></u>	<u><u>\$2,800,000</u></u>	<u><u>\$3,740,000</u></u>	<u><u>\$4,439,000</u></u>	<u><u>\$4,882,900</u></u>

<b>Quick Company Gross Profit Trend Analysis For Period Ending December 31, 2001</b>					
	1997	1998	1999	2000	2001
<b>Sales Revenue</b>	\$4,000,000	\$5,200,000	\$6,500,000	\$7,475,000	\$8,222,500
Change		\$1,200,000	\$1,300,000	\$975,000	\$747,500
% Change <sup>1</sup>		30%	25%	15%	10%
<b>Cost of Goods Sold</b>	\$2,000,000	\$2,400,000	\$2,760,000	\$3,036,000	\$3,339,600
Change		\$400,000	\$360,000	\$276,000	\$303,600
% Change		20%	15%	10%	10%
<b>Gross Profit</b>	\$2,000,000	\$2,800,000	\$3,740,000	\$4,439,000	\$4,882,900
Change		\$800,000	\$940,000	\$669,000	\$443,900
% Change		40%	34%	18%	10%

$$^1 \text{ Percent Change} = \frac{\text{Later Value} - \text{Earlier Value}}{\text{Earlier Value}} (100) = \frac{\$5,200,000 - \$4,000,000}{\$4,000,000} (100) = \frac{\$1,200,000}{\$4,000,000} (100) = 30\%$$

### II. Ratio Analysis

A. Ratio analysis will be used to analyze the Quick Company balance sheet as of December 31, 1998.

<b>Quick Company Balance Sheets December 31, 1998</b>					
<b>Assets</b>	<b>1998</b>	<b>1997</b>	<b>Liabilities</b>	<b>1998</b>	<b>1997</b>
Cash	\$ 1,200,000	\$ 1,100,000	Accounts Payable	\$ 1,307,000	\$ 890,000
Accounts Receivable (Net)	1,400,000	1,000,000	Salaries Payable	<u>15,000</u>	<u>10,000</u>
Prepaid expenses	105,000	100,000	Total Current Liabilities	\$ 1,322,000	\$ 900,000
Inventory	<u>1,200,000</u>	<u>800,000</u>	Notes Payable	<u>8,500,000</u>	<u>8,500,000</u>
Total Current Assets	\$ 3,905,000	\$ 3,000,000	Total Liabilities	\$ 9,822,000	\$ 9,400,000
Land	9,000,000	9,000,000	<b>Stockholders' Equity</b>		
Fixed Assets (Net)	<u>6,270,000</u>	<u>5,700,000</u>	Stockholders' Equity	<u>9,353,000</u>	<u>8,300,000</u>
Total Long-Term Assets	<u>\$15,270,000</u>	<u>\$14,700,000</u>	<b>Total Liabilities and Equity</b>	<u>\$19,175,000</u>	<u>\$17,700,000</u>
<b>Total Assets</b>	<u><u>\$19,175,000</u></u>	<u><u>\$17,700,000</u></u>			

#### B. Relevant information

1. All sales are on credit and net of returns and discounts.
2. Average accounts receivable equals the beginning balance plus ending balance divided by two. Other average balances are calculated in a similar manner.
3. After tax, operating income in 1998 was \$350,000.

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### III. Liquidity Ratios

#### A. Current Ratio

$$\frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{\$3,905,000}{\$1,322,000} = 2.95$$

#### B. Quick Ratio

$$\frac{\text{Quick Assets}}{\text{Current Liabilities}} = \frac{\$1,200,000 + \$1,400,000}{\$1,322,000} = 1.97$$

1. Liquidity ratios measure the ability to pay current liabilities.
2. Because the return on current assets is low, a high liquidity ratio may lead to a low return on assets.
3. A low ratio means a company may be unable to pay creditors.
4. A ratio of 2 is often given as typical, though what is typical differs from industry to industry.
5. Cash, receivables, and short-term investments are quick assets.

### IV. Activity Ratios

#### A. Accounts Receivable Turnover

$$\frac{\text{Net Receivable Sales}}{\text{Average Net Accounts Receivable}} = \frac{\$5,200,000}{\frac{\$1,000,000 + \$1,400,000}{2}} = 4.3 \text{ times}$$

#### B. Average Collection Period

$$\frac{\text{Average Net Accounts Receivable}}{\frac{\text{Net Receivable Sales}}{365}} = \frac{\frac{\$1,000,000 + \$1,400,000}{2}}{\frac{\$5,200,000}{365}} = \frac{\$1,200,000}{\$14,247} = 84 \text{ days}$$

#### C. Inventory Turnover

$$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}} = \frac{\$2,400,000}{\frac{\$800,000 + \$1,200,000}{2}} = 2.4 \text{ times}$$

#### D. Long-Term Asset Turnover

$$\frac{\text{Net Sales}}{\text{Average Long-Term Assets}} = \frac{\$5,200,000}{\frac{\$14,700,000 + \$15,270,000}{2}} = .35 \text{ times}$$

1. Activity ratios measure the management capabilities of a company.
2. Receivable policy should be flexible enough to generate sales while keeping bad debts to a minimum.
3. Inventory should be high enough to provide variety and quick delivery while keeping inventory carry costs to a minimum. When inventory is low, marketing people complain about not having enough product. When inventory is too high, the controller complains about high inventory carrying costs. One problem, these people complain at the same time.
4. Fixed assets, like computers, should increase efficiency and increase sales. If this happens, Long-Term Asset Turnover will be high. Quick Corporation's owner wants to build a golf course so excess land has caused a low long-term asset turnover.

### V. Profitability Ratios

#### A. Return on Sales

$$\frac{\text{Operating Income}}{\text{Net Sales}} = \frac{\$350,000}{\$5,200,000} = 6.7\%$$

#### B. Return on Equity

$$\frac{\text{Operating Income}}{\text{Average Common Stock Equity}} = \frac{\$350,000}{\frac{\$8,300,000 + \$9,353,000}{2}} = 3.97\%$$

1. Return on common stock equity is the most important measure of a company's current financial success.
2. Other ratios presented in this learning unit help analyze the risk and expected variability associated with this return on common stock.

### VI. Leverage Ratio

#### A. Debt-to-Equity Ratio

$$\frac{\text{Total Liabilities}}{\text{Stockholders' Equity}} = \frac{\$9,822,000}{\$9,353,000} = 105\%$$

1. Leverage is the use of debt to generate income.
2. Generally the higher the debt in relation to equity, the higher the leverage, the higher the possible return, and the higher the risk.