Calculating Financial Ratios

Learning goal: practice calculating financial ratios using these sample financial statements. Do you understand where to pull data to calculate each ratio?

Part 1

ABC Company has come to you to lease a $1,250,000 machine tool over a seven-year period. Review the following condensed financial information for ABC Company.

Income Statement

Net Sales	$	18,000,000
(-) Cost of Goods Sold	$	15,000,000
Gross Profit	$	3,000,000
(-) Operating Expenses (G&A)	$	1,800,000
Operating Profit (EBIT)	$	1,200,000
Interest Expense	$	300,000
Earnings Before Tax	$	900,000
Tax Expense	$	100,000
Net Profit	$	800,000

Balance Sheet

Cash	$	1,000,000	Accounts Payable	$	1,500,000
Accounts Receivable	$	1,500,000	Notes Payable - Bank	$	1,000,000
Inventory	$	2,000,000	Current Portion LT Debt	$	500,000
Current Assets	$	4,500,000	Current Liabilities	$	3,000,000
Fixed Assets	$	6,000,000	Long Term Debt	$	4,000,000
Other	$	500,000	Total Liabilities	$	7,000,000
			Net Worth	$	4,000,000
Total Assets	$	11,000,000	Total Liabilities & Net Worth	$	11,000,000

Calculate each of the following financial ratios for ABC Company.

1. Gross Profit Margin

2. Current Ratio

3. Total Liabilities to Net Worth (Debt to Equity)

4. Return on Assets (ROA)

5. Return on Equity

6. Quick Ratio

7. Inventory Turn Over

8. Accounts Receivable Turn Over

9. Based on your analysis, what are the strengths and weaknesses of this transaction?

Part 2

Using the ratios you calculated in part 1, let's compare ABC Company's ratios to another firm in the same industry, XYZ Company. The two companies are located twenty-five miles away from each other and have nearly identical revenues and total asset bases. Assuming all other credit decision-making elements are identical, how would you interpret this information?

	ABC Company	**XYZ Company**
Gross Profit Margin		4%
Current Ratio		1.0
Debt to Equity		5.5:1
Return on Assets		6.5%
Return on Equity		10%
Quick Ratio		.7
Inventory Turn Over		90 days
Accounts Receivable Turnover		75 days

1. Inventory turns faster in which company?

2. Which company is converting inventory into cash faster?

3. Which company is selling more efficiently?

4. Which company is performing better?

Answers

Part 1: Calculate Ratios for ABC Company

1 **Gross Profit Margin c**alculated as:

$$\frac{Gross\ Profit\ on\ Sales}{Net\ Sales}$$

For this example:

$$\frac{\$3{,}000{,}000}{\$18{,}000{,}000} = \mathbf{16.7}\%$$

2 **Current Ratio** calculated as:

$$\frac{Current\ Assets}{Current\ Liabilities}$$

For this example:

$$\frac{\$4{,}500{,}000}{\$3{,}000{,}000} = \mathbf{1.5{:}1}$$

3 **Debt to Equity** calculated as:

$$\frac{Total\ Liabilities}{Net\ Worth}$$

For this example:

$$\frac{\$7{,}000{,}000}{\$4{,}000{,}000} = \mathbf{1.75{:}1}$$

4 **Return on Assets c**alculated as:

$$\frac{Net\ Income\ After\ Tax}{Total\ Assets}$$

For this example:

$$\frac{\$800{,}000}{\$11{,}000{,}000} = \mathbf{7.27}\%$$

5 **Return on Equity c**alculated as:

$$\frac{Net\ Income\ After\ Tax}{Net\ Worth}$$

For this example:

$$\frac{\$800{,}000}{\$4{,}000{,}000} = \mathbf{20}\%$$

6 **Quick Ratio c**alculated as:

$$\frac{Current\ assets - Inventory}{Current\ liabilities}$$

For this example:

$$\frac{\$4{,}500{,}000 - \$2{,}000{,}000}{\$3{,}000{,}000} = \mathbf{.83}$$

7 **Inventory Turn Over (in days)** calculated as:

$$\frac{Average\ Inventory}{Cost\ of\ Goods\ Sold} * 365$$

For this example:

$$\frac{\$2{,}000{,}000}{\$15{,}000{,}000} * 365 = \boldsymbol{48.67\ days}$$

8 **Accounts Receivable Turn Over (in days)** calculated as:

$$\frac{Average\ Accounts\ Receivable}{Net\ Sales} * 365$$

For this example:

$$\frac{\$1{,}500{,}000}{\$18{,}000{,}000} * 365 = \boldsymbol{30.42\ days}$$

9 **Strengths:** low leverage, attractive gross profit margin, adequate liquidity, acceptable ROE

Weaknesses: Inventory may be a little high, need to compare to industry averages

Part 2: Compare ABC Company and XYZ Company

Ratios	**ABC Company**	**XYZ Company**
Gross Profit Margin	16.67%	4%
Current Ratio	1.5	1
Debt to Equity	1.75	5.5
Return on Assets	7.27%	6.5%
Return on Equity	20%	10%
Quick Ratio	.83	.7
Inventory Turn Over (in days)	48.67 days	90 days
Accounts Receivable Turnover (in days)	30.42 days	75 days

1. Inventory turns faster in which company? ABC Company
2. Which company is converting inventory into cash faster? ABC Company
3. Which company is selling more efficiently? ABC Company
4. Which company is doing better? ABC Company