

## Financial Statement Analysis

### Balance Sheet

Assets	December 31	
	2003	2002
Current assets		
Cash	\$ 363	\$ 288
Marketable securities	68	51
Accounts receivable	503	365
Inventories	289	300
Total current assets	<u>\$1,223</u>	<u>\$1,004</u>
Gross fixed assets (at cost) <sup>a</sup>		
Land and buildings	\$2,072	\$1,903
Machinery and equipment	1,866	1,693
Furniture and fixtures	358	316
Vehicles	275	314
Other (includes financial leases)	98	96
Total gross fixed assets (at cost)	<u>\$4,669</u>	<u>\$4,322</u>
Less: Accumulated depreciation	<u>2,295</u>	<u>2,056</u>
Net fixed assets	<u>\$2,374</u>	<u>\$2,266</u>
Total assets	<u><u>\$3,597</u></u>	<u><u>\$3,270</u></u>
<b>Liabilities and Stockholders' Equity</b>		
Current liabilities		
Accounts payable	\$ 382	\$ 270
Notes payable	79	99
Accruals	159	114
Total current liabilities	<u>\$ 620</u>	<u>\$ 483</u>
Long-term debt (includes financial leases) <sup>b</sup>	<u>\$1,023</u>	<u>\$ 967</u>
Total liabilities	<u>\$1,643</u>	<u>\$1,450</u>
Stockholders' equity		
Preferred stock—cumulative 5%, \$100 par, 2,000 shares authorized and issued <sup>c</sup>	\$ 200	\$ 200
Common stock—\$2.50 par, 100,000 shares authorized, shares issued and outstanding in 2003: 76,262; in 2002: 76,244	191	190
Paid-in capital in excess of par on common stock	428	418
Retained earnings	1,135	1,012
Total stockholders' equity	<u>\$1,954</u>	<u>\$1,820</u>
Total liabilities and stockholders' equity	<u><u>\$3,597</u></u>	<u><u>\$3,270</u></u>

<sup>a</sup>In 2003, the firm has a 6-year financial lease requiring annual beginning-of-year payments of \$35,000. Four years of the lease have yet to run.

<sup>b</sup>Annual principal repayments on a portion of the firm's total outstanding debt amount to \$71,000.

<sup>c</sup>The annual preferred stock dividend would be \$5 per share (5% × \$100 par), or a total of \$10,000 annually (\$5 per share × 2,000 shares).

## Income Statement

	For the years ended December 31	
	2003	2002
Sales revenue	\$3,074	\$2,567
Less: Cost of goods sold	<u>2,088</u>	<u>1,711</u>
Gross profits	<u>\$ 986</u>	<u>\$ 856</u>
Less: Operating expenses		
Selling expense	\$ 100	\$ 108
General and administrative expenses	194	187
Lease expense <sup>a</sup>	35	35
Depreciation expense	<u>239</u>	<u>223</u>
Total operating expense	<u>\$ 568</u>	<u>\$ 553</u>
Operating profits	\$ 418	\$ 303
Less: Interest expense	<u>93</u>	<u>91</u>
Net profits before taxes	\$ 325	\$ 212
Less: Taxes (rate = 29%) <sup>b</sup>	<u>94</u>	<u>64</u>
Net profits after taxes	\$ 231	\$ 148
Less: Preferred stock dividends	<u>10</u>	<u>10</u>
Earnings available for common stockholders	<u><u>\$ 221</u></u>	<u><u>\$ 138</u></u>
Earnings per share (EPS) <sup>c</sup>	\$ 2.90	\$ 1.81
Dividend per share (DPS) <sup>d</sup>	\$ 1.29	\$ 0.75

<sup>a</sup>Lease expense is shown here as a separate item rather than being included as part of interest expense, as specified by the FASB for financial-reporting purposes. The approach used here is consistent with tax-reporting rather than financial-reporting procedures.

<sup>b</sup>The 29% tax rate for 2003 results because the firm has certain special tax write-offs that do not show up directly on its income statement.

<sup>c</sup>Calculated by dividing the earnings available for common stockholders by the number of shares of common stock outstanding—76,262 in 2003 and 76,244 in 2002. Earnings per share in 2003:  $\$221,000 \div 76,262 = \$2.90$ ; in 2002:  $\$138,000 \div 76,244 = \$1.81$ .

<sup>d</sup>Calculated by dividing the dollar amount of dividends paid to common stockholders by the number of shares of common stock outstanding. Dividends per share in 2003:  $\$98,000 \div 76,262 = \$1.29$ ; in 2002:  $\$57,183 \div 76,244 = \$0.75$ .

**Exercise 1:** Compute key financial ratios to complete below table.

<b>Ratios</b>	<b>2003</b>	<b>2002</b>
<b>1. Liquidity Ratio</b>		
1.1 Current ratio		
1.2 Quick ratio		
1.3 Cash ratio		
<b>2. Activity Ratio</b>		
2.1 Account receivable turnover		
Account receivable days		
2.3 Inventory turnover		
Inventory days		
2.4 Account payable turnover		
Account payable days		
2.5 Fixed asset turnover		
2.6 Total asset turnover		
2.7 Capital intensity ratio		
<b>3. Leverage Ratio</b>		
3.1 Proprietary ratio		
3.2 Equity multiplier ratio		
3.3 Total debt ratio		
3.4 Debt to equity ratio		
3.5 Long-term debt to total capitalization ratio		
3.6 Interest coverage ratio / Time-interest earned		
3.7 Cash flow coverage ratio		
<b>4. Profitability Ratio</b>		
4.1 Gross profit margin		
4.2 Operating profit margin		
4.3 Net profit margin		
<b>5. Market Value Ratio</b>		
5.1 Earning per share (EPS)		
5.2 Price/Earning ratio (P/E ratio)		
5.3 Price/Book ratio		
5.4 Dividend yield		

## Summary

### 1. Liquidity Ratio

1.1 Current ratio	=	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
1.2 Quick ratio	=	$\frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$
1.3 Cash ratio	=	$\frac{\text{Cash}}{\text{Current Liabilities}}$

### 2. Activity Ratio

2.1 Account receivable turnover	=	$\frac{\text{Sale}}{\text{Account Receivable}}$
Account receivable days	=	$\frac{365 \text{ days (for 1 year)}}{\text{AR Turnover}} = \frac{\text{Account Receivable}}{\text{Sale per Day}}$
2.2 Inventory turnover	=	$\frac{\text{Cost of Goods Sold}}{\text{Inventory}}$
Inventory days	=	$\frac{365 \text{ days (for 1 year)}}{\text{Inventory Turnover}} = \frac{\text{Inventory}}{\text{Cost of Goods Sold per day}}$
2.3 Account payable turnover	=	$\frac{\text{Cost of Goods Sold}}{\text{Account Payable}}$
Account payable days	=	$\frac{365 \text{ days (for 1 year)}}{\text{AP Turnover}} = \frac{\text{Account Payable}}{\text{Cost of Goods Sold per day}}$
2.4 Fixed asset turnover	=	$\frac{\text{Sale}}{\text{Fixed Assets}}$
2.5 Total asset turnover	=	$\frac{\text{Sale}}{\text{Total Asset}}$
2.6 Capital intensity ratio	=	$\frac{\text{Total Asset}}{\text{Sale}}$

### 3. Leverage Ratio

3.1 Proprietary ratio	=	$\frac{\text{Equity}}{\text{Total Asset}}$
3.2 Equity multiplier ratio	=	$\frac{\text{Total Asset}}{\text{Equity}}$
3.3 Total debt ratio	=	$\frac{\text{Total Debt}}{\text{Total Asset}}$
3.4 Debt to equity ratio	=	$\frac{\text{Total Debt}}{\text{Equity}}$
3.5 Long-term debt to total capitalization ratio	=	$\frac{\text{LT Debt}}{\text{LT Debt} + \text{Equity}}$
3.6 Interest coverage ratio / Time-interest earned	=	$\frac{\text{Operating Profit}}{\text{Interest Expense}}$
3.7 Cash flow coverage ratio =		$\frac{\text{Operating Profit} + \text{Rent Expense} + \text{Depreciation}}{\text{Interest Expense} + \text{Rent Expense} + \text{Preferred Stock Dividend}/(1 - \text{Tax Rate})}$

### 4. Profitability Ratio

4.1 Gross profit margin	=	$\frac{\text{Gross Profit}}{\text{Sale}}$
4.2 Operating profit margin	=	$\frac{\text{Operating Profit}}{\text{Sale}}$
4.3 Net profit margin	=	$\frac{\text{Net Profit}}{\text{Sale}}$

**5. Market Value Ratio**

5.1 Earning per share (EPS)	=	$\frac{\text{Net Profit}}{\text{Number of Common Stocks}}$
5.2 Price/Earning ratio (P/E ratio)	=	$\frac{\text{Market Price per Share}}{\text{Number of Common Stocks}}$
5.3 Price/Book ratio	=	$\frac{\text{Market Price per Share}}{\text{Book Value per Share}}$
5.4 Dividend yield	=	$\frac{\text{Expected Dividend per Share}}{\text{Market Price per Share}}$