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Problem 1st of Chapter 6th

1. The data for various companies in the same industry are as follows:

COMPANY

	A	B	C	D	E	F
Sales (in millions)	\$10	\$20	\$8	\$5	\$12	\$17
Total assets (in millions)	8	10	6	2.5	4	8
Net income (in millions)	0.7	2	0.8	0.5	1.5	1

Determine the total asset turnover, net profit margin, and earning power for each of the companies.

Solution:

Company "A"

Total Assets Turnover:

$$\frac{\text{Net sales}}{\text{Total Assets}}$$
$$\frac{10}{8} = 0.8$$

Net Profit Margin:

$$\frac{\text{Net Profit}}{\text{Total Sales}}$$
$$\frac{0.7}{10} = 0.07$$

Earning Power:

$$= 0.8 \times 0.07$$
$$= 0.056$$

Company "B"

Total Assets Turnover:

$$\frac{\text{Net sales}}{\text{Total Assets}}$$
$$\frac{20}{10} = 2$$

Net Profit Margin:

$$\frac{\text{Net Profit}}{\text{Total Sales}}$$
$$\frac{2}{20} = 0.1$$

Earning Power:

$$2 \times 0.1 = 0.2$$

Company "C"

Total Assets Turnover:

$$\frac{\text{Net sales}}{\text{Total Assets}}$$

$$\frac{8}{6} = 1.333$$

Net Profit Margin:

$$\frac{\text{Net Profit}}{\text{Total Sales}}$$

$$\frac{0.8}{8} = 0.1$$

Earning Power:

$$1.33 \times 0.1 = 0.133$$

Company "E"

Total Assets Turnover:

$$\frac{\text{Net sales}}{\text{Total Assets}}$$

$$\frac{17}{8} = 2.125$$

Net Profit Margin:

$$\frac{\text{Net Profit}}{\text{Total Sales}}$$

$$\frac{1}{17} = 0.05$$

Earning Power:

$$2.125 \times 0.05 = 0.10625$$

Company "D"

Total Assets Turnover:

$$\frac{\text{Net sales}}{\text{Total Assets}}$$

$$\frac{5}{2.5} = 0.1$$

Net Profit Margin:

$$\frac{\text{Net Profit}}{\text{Total Sales}}$$

$$\frac{0.5}{5} = 0.1$$

Earning Power:

$$2 \times 0.1 = 0.2$$

Company "F"

Total Assets Turnover:

$$\frac{\text{Net sales}}{\text{Total Assets}}$$

$$\frac{12}{4} = 3$$

Net Profit Margin:

$$\frac{\text{Net Profit}}{\text{Total Sales}}$$

$$1.5$$

Earning Power:

$$3 \times 1.5 = 4.5$$

Problem 2nd of Chapter 6th

2. Cordillera Carson Company has the following balance sheet and income statement for 20X2 (in thousands):

BALANCE SHEET		INCOME STATEMENT	
Cash \$	400	Net sales (all credit)	\$12,680
Accounts receivable	1,300	Cost of goods sold	<u>8,930</u>
Inventories	<u>2,100</u>	Gross profit	\$ 3,750
Current assets	\$3,800	Selling, general, and	
Net fixed assets	<u>3,320</u>	administration expenses	2,230
Total assets	<u>\$7,120</u>	Interest expense	<u>460</u>
		Profit before taxes	\$ 1,060
Accounts payable	\$ 320	Taxes	<u>390</u>
Accruals	260	Profit after taxes	<u>\$ 670</u>
Short-term loans	<u>1,100</u>		
Current liabilities	\$1,680		
Long-term debt	2,000		
Net worth	<u>3,440</u>		
Total liabilities and net worth	<u>\$7,120</u>		

Notes: (i) current period's depreciation is \$480; (ii) ending inventory for 20X1 was \$1,800. On the basis of this information, compute (a) the current ratio, (b) the acid-test ratio, (c) the average collection period, (d) the inventory turnover ratio, (e) the debt-to-net-worth ratio, (f) the long-term debt-to-total-capitalization ratio, (g) the gross profit margin, (h) the net profit margin, and (i) the return on equity.

Solution:

A. Current Ratio:

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

$$\frac{3800}{1680} = 2.26$$

B. Acid-Test Ratio:

$$\frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

$$\frac{3800 - 2100}{1680} = \frac{1700}{1680} = 1.01$$

C. The Overage Collection Period:

$$\frac{\text{Net Credit Sales}}{\text{Receivable}}$$

$$\frac{12680}{1300} = 0.97$$

$$\frac{\text{Total Days in Year}}{\text{Receivable Turnover}}$$

$$\frac{360}{0.97} = 376.28$$

D. The Inventory Turnover Ratio:

$$\frac{\text{Cost of Goods sold}}{\text{Average Inventories}}$$

$$\frac{8930}{(2100 + 1800)/2} = \frac{8930}{1950} = 4.57$$

E. The Debt to Net Worth Ratio:

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

$$\frac{3680}{3440} = 1.06$$

F. Long Term Debt to Total Capitalization Ratio:

$$\frac{\text{Long Term Debt}}{\text{Total Capitalization}}$$
$$\frac{2000}{2000 + 3440} = \frac{2000}{5440} = 0.36$$

G. Gross Profit Margin:

$$\frac{\text{Net sales} - \text{CGs}}{\text{Net Sales}}$$
$$\frac{12680 - 8930}{12680} = \frac{3750}{12680} = 0.29$$

H. Net Profit Margin:

$$\frac{\text{Net Profit}}{\text{Net Sales}}$$
$$\frac{670}{12680} = 0.05$$

I. Return On Equity:

$$\frac{\text{Net Income}}{\text{Equity}}$$
$$\frac{670}{8440} = 0.19$$