CHAPTER 4: UNDERSTANDING FINANCIAL STATEMENTS

4-1

Solving (15,000,000 * 50% − 1,500,000 − 1,000,000 − I) * (1 − 35%) / 1,300,000 = 2.0
then the interest expense = I = $1,000,000

4-2

a: Percentage Based-Income Statements

Items	**Company**	**Industry**
Revenues	100%	100%
Costs of goods sold	40%	50%
Depreciation	20%	15%
Other operating expenses	8%	15%
Operating Income	32%	20%
Interest expenses	12%	10%
Income Before Taxes	20%	10%
Taxes	7%	3%
Net Income	13%	7%

b: The company has a more efficient cost structure (cost of goods sold and operating expenses) and higher margins.

4-3

c. and (b):

	1992	*1993*	*% Change*
Revenues	$ 10,000.00	$ 10,100.00	1.00%
- Labor	$ 4,000.00	$ 2,500.00	-37.50%
- Material	$ 2,000.00	$ 2,010.00	0.50%
- Deprec'n	$ 1,000.00	$ 1,300.00	30.00%
- Op. Exp.	$ 500.00	$ 450.00	-10.00%
EBIT	$ 2,500.00	$ 3,840.00	53.60%
- Int. Exp.	$ 500.00	$ 520.00	4.00%
Taxable Inc.	$ 2,000.00	$ 3,320.00	66.00%

- Tax	$ 700.00	$ 1,261.60	80.23%
Net Income	$ 1,300.00	$ 2,058.40	58.34%
# Shares	1500	1500	0.00%
EPS	$ 0.87	$ 1.37	58.34%

(c): the high growth rate of EPS can be attributed to growth in operating income,which, in turn, can be attributed to a large drop in the cost of labor.

4-4

Long-term debt = (15 − 5 −7) = $3 millions

4-5

Total assets = total liabilities + equity = 20 + 10 + 20 = 50
Inventory = 50 − (25 + 10 + 5) = $10 million

4-6

retained income in 1995 = net income - dividends = 1,500,000 - 1.00*500,000
= 1,000,000
the total equity in 1995 = total equity in 1994 + retained earnings in 1995
= 10,000,000 + 1,000,000 = 11,000,000
the percentage increase in equity from 1994 to 1995 = 1,000,000 / 10,000,000 = 10%

4-7

change in cash from 1994 to 1995 = change in total assets - change in non-cash assets
= 10 - (-2 + 3 + 0.5 + 2) = 6.5
cash in 1995 = cash in 1994 + change in cash from 1994 = 10 + 6.5 = $16.5 millions

4-8

cash from operations = net earnings + depreciation = 30 + 2 = $32 millions
increase in non-cash assets = 10 + 20 + 15 = $45 millions
the need for financing = 45 − 32 = $13 millions

4-9

$40 millions would be available for paying dividends.
net accumulations of cash over these five years = 5 * (40 − 10) = $150 millions.

4-10

total assets = debt + equity = 100 + 42.5 = 142.5
interest expense = coupon rate * debt = 10% * 100 = 10
then from the equation:
return on assets = (net income + interest expenses(1−tax rate)) / total assets
we can solve for tax rate:
tax rate = 1 − (return on assets * total assets - net income) / interest expenses
= 1 − (20%*142.5 − 25) / 10 = 65%

4-11

net income = total assets * Du Pont ROI = 100 * 25% = $25 millions
total revenues = net income / net profit margin = 25 / 10% = $250 millions

4-12
increase in the operating profits = operating leverage * increase in sales = 4.0 * 3.5% = 14%
operating profits in 1995 = $20.5 millions * (1 + 14%) = $23.37 millions

4-13
Solving the equation for D/E:
20% = 10% + D/E (10% − 7% (1−40%))
then D/E = (20%−10%) / (10% − 7%(1−40%)) = 1.724

4-14
Let CA = Current Assets and CL = Current Liabilities
Current Ratio = CA / CL = 1.5 then CA = 1.5*CL (1)
CA - Cash and marketable securities = 2.5 then
Cash and marketable securities = CA − 2.5
Quick Ratio = Cash and marketable securities / CL = 1.0 then
CA - 2.5) / CL = 1.0 then CA = CL + 2.5 (2)

Solving (1) and (2), we get CA = $7.5 millions and CL = $5 millions

4-15
Total assets turnover = total sales / total assets = 0.7272
then total sales = 0.7272 * total assets = 0.7272 * 2200 = 1,600
Accounts Receivable Turnover = Total sales / A/R = 4.0
then A/R = Total Sales / 4.0 = 1600 / 4.0 = 400

Quick Ratio = (Cash & marketable securities + A/R) /Current Liabilities = 0.6
then Current Liabilities = (Cash & marketable securities + A/R) / 0.6
= (200 + 400) / 0.6 = 1,000

Current Assets / Current Liabilities = 1.2
then Current Assets = 1.2 * Current Liabilities = 1.2 * 1,000 = 1,200
Inventory = Current Assets - Cash & marketable securities - A/R
= 1,200 − 200 − 400 = 600
Fixes Assets = Total assets - current assets = 2,200 − 1,200 = 1,000

Current liabilities + long-term debt + equity = total assets
then 1,000 + long-term debt + equity = 2,200 (1)
(Current liabilities + long-term debt) / equity = debt-equity ratio
then (1,000 + long-term debt) / equity = 2.143 (2)
Solving (1) and (2) we get
Long-term debt = 500 and equity = 700

4-16

Required Financing Period = Days Receivable Outstanding + Days Inventory Held
− Days A/P Outstanding

then Days A/P Outstanding = Days Receivable Outstanding + Days Inventory Held
− Required Financing Period
= 35 + 25 − 40 = 20 days

4-17

Since 5 = (20 + Fixed charges) / Fixed charges
then Fixed charges = $5 millions

4-18

(420,000 + Long-term debt) / (420,000 + Long-term debt + equity) = 0.4
and Long-term debt / equity = .5
Solving both equations, we get
Long-term debt = 1,260,000 and Equity = 2,520,000

4-19

Total sales = A/R Turnover * Average A/R = 5.6 * 25 = $140 millions
Cost of goods sold = total sales *50% = $70 millions
Inventory Turnover = Cost of goods sold / Average Inventory = 70/50 =1.4

4-20

Interest Charges = EBIT / Interest coverage ratio = 400,000 / 10 = 40,000
Total debt = Interest Charges / Average interest rate = 40,000 / 8% = 500,000