Assignment 1

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Problem 1 (8 pts)

A chemical processing firm is planning on adding a duplicate polyethylene plant at another location. The financial information for the first project year is shown in the Table.

a) Compute the new working-capital requirement during the project period.
b) What is the taxable income during the project period?
c) What is the net income during the project period?
d) Compute the net cash-flow from the project during the first year.

Sales		$1,500,000
Manufacturing costs		
Direct materials	$ 150,000	
Direct labour	200,000	
Overhead	100,000	
Depreciation	200,000	
Operating expenses		150,000
Equipment purchase		400,000
Borrowing to finance equipment		200,000
Increase in inventories		100,000
Decrease in accounts receivable		20,000
Increase in wages payable		30,000
Decrease in notes payable		40,000
Income taxes		272,000
Interest payment on financing		20,000

Q1)

a) WCR = CA - CL

= (Inventory - A/R) - (WP - NP)

= ($100000 - $20000) - ($30000 - $40000)

= $90000

b) Taxable income = Sales - MC - Expenses - Interest

= $1500000 - ($150000 + $200000 + $100000 + $200000) - $150000 - $20000

= $680000

c) Net income = Taxable income - Income taxes

= $680000 - $272000

= $408000

d) Net cashflow from OA = Net income + depreciation - WCR

= $408000 + $200000 - $90000

= $518000

Net cashflow from project = NCFOA + Financing activities - Investing activities

= $518000 + $200000 - $400000

= $318000

SFU SCHOOL OF MECHATRONIC SYSTEMS ENGINEERING

MSE300
Assignment 1
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Problem 2 (20 pts)

The balance sheet (shown in the table) summarizes the financial conditions for Flex inc ., an electronic outsourcing contractor, for fiscal-year 2009. Flex has reported a profit for several years running. Compute the various financial ratios and interpret the firm's financial health during fiscal-year 2009. Note that the balance sheet and the income statement entries in this problem are not complete. Only relevant entries are listed. Do not attempt to add individual entries to confirm either current assets or current li abilities.

a) Debt ratio
b) Times-interest-earned ratio
c) Current ratio

	Aug. 2009 U.S. $ (000) (12 mos.)	Aug. 2008 U.S. $ (000) (Year)
Balance Sheet Summary		
Cash	1,325,637	225,228
Securities	362,769	83,576
Receivables	1,123,901	674,193
Allowances	−5,580	−3,999
Inventory	1,080,083	788,519
Current assets	3,994,084	1,887,558
Property and equipment, net	1,186,885	859,831
Depreciation	533,311	−411,792
Total assets	4,834,696	2,410,568
Current liabilities	1,113,186	840,834
Bonds	922,653	385,519
Preferred stock	0	0
Common stock	271	117

Q2)

a) Debt ratio

$\frac{L}{A} = \frac{\text{current lib + bonds}}{\text{total asset}} = \frac{1113186 + 922653}{4834696} = \boxed{42.11\%}$

b) Times-interest-earned ratio

$\frac{\text{EBIT}}{\text{interest}} = \frac{432342 + 36479}{36479} = \boxed{12.85 \text{ times}}$

c) current ratio

$\frac{\text{current asset}}{\text{current liability}} = \frac{3994084}{1113186} = \boxed{3.59 \text{ times}}$

d) Quick ratio

$\frac{\text{current asset - inventory}}{\text{current liability}} = \frac{3994084 - 1080083}{1113186} = \boxed{2.62 \text{ times}}$

e) Inventory turnover ratio

$\frac{\text{sales}}{\text{Avg inventory}} = \frac{8391409}{(1080083 + 788519)/2} = \boxed{8.98 \text{ times}}$

either current assets or current li abilities.

a) Debt ratio
b) Times-interest-earned ratio
c) Current ratio
d) Quick (acid-test) ratio
e) Inventory turnover ratio
f) Day's sales outstanding
g) Total assets turnover
h) Profit margin on sales
i) Return on total assets
j) Return on common equity
k) Price-to-earnings ratio. Assume a stock price of US$65 per share.
l) Book value per share. Assume that 247,004,200 shares were outstanding.

Total assets	4,834,696	2,410,568
Current liabilities	1,113,186	840,834
Bonds	922,653	385,519
Preferred stock	0	0
Common stock	271	117
Other stockholders' equity	2,792,820	1,181,209
Total liabilities and equity	4,834,696	2,410,568
Income Statement Summary		
Total revenues	8,391,409	5,288,294
Cost of sales	7,614,589	4,749,988
Other expenses	335,808	237,063
Loss provision	2,143	2,254
Interest expense	36,479	24,759
Income pre-tax	432,342	298,983
Income tax	138,407	100,159
Income continuing	293,935	198,159
Net income	**293,935**	**198,159**
EPS primary	**$1.19**	**$1.72**
EPS diluted	$1.13	$1.65

Problem 3 (12 pts)

J. C. Olson & Co. had earnings per share of $8 in year 2008, and it paid a $4 dividend. Book value per share at year's end was $80. During the same period, the total retained earnings increased by $24 million. Olson has no preferred stock, and no new common stock was issued during the year. If Olson's year-end debt (which equals its total liabilities) was $240 million, what was the company's year-end debt-to-asset ratio?

Q3) Earning/Share = $8
dividend = $4
Book value/share = $80
debt = $240 million
Total earning increase = $24 million

debt to asset ratio = $\frac{\text{total debt}}{\text{total asset}} = \frac{\text{total debt}}{\text{total(SE + liability)}}$

retained earning = E/S (num of shares) − div(num of shares)

$24000000 = 8x - 4x$

$x = 6000000$ → num of shares

Earning = 6000000 x $8/share = 480000000

$= \frac{240000000}{480000000 + 240000000}$

$= 0.3333 = 33.33\%$

$\frac{\text{sales}}{\text{Avg inventory}} = \frac{8391409}{(1080083 + 788519)/2} = \boxed{8.98 \text{ times}}$

f) Day's sales outstanding

$\frac{\text{Receivables}}{\text{Net rev}/365} = \frac{1123901}{8391409/365} = \boxed{48.89 \text{ days}}$

g) Total assets turnover ☆

$\frac{\text{Sales}}{\text{Total assets}} = \frac{8391409}{4834696} = \boxed{1.74 \text{ times}}$

h) Profit margin on sales

$\frac{\text{Net income}}{\text{Net rev}} = \frac{293935}{8391409} = \boxed{3.5\%}$

i) Return on total assets (32.01%)

$\frac{\text{Net income + interest expense(1 − tax rate)}}{\text{Avg total assets}} = \frac{293935 + 36479(1 - 0.3201)}{(4834696 + 2410568)/2} = \boxed{8.798\%}$

j) Return on common equity

$\frac{\text{Net income}}{\text{Avg shares}} = \frac{293935}{((271 + 2792820) + (117 + 1181209))/2} = \boxed{14.79\%}$

k) Price to earnings

$\frac{\text{Price/share}}{\text{Earnings/share}} = \frac{65}{1.19} = \boxed{54.62}$

l) Book value / share

$\frac{\text{Total SE − Preferred stock}}{\text{Shares outstanding}} = \frac{(271 + 2792820 - 0) \times 1000}{247004200} = \boxed{\$11.31/\text{share}}$