

## PROBLEMS

Carter Corporation's sales are expected to increase from \$5 million in 2004 to \$6 million in 2005, or by 20 percent. Its assets totaled \$3 million at the end of 2004. Carter is at full capacity, so its assets must grow at the same rate as projected sales. At the end of 2004, current liabilities were \$1 million, consisting of \$250,000 of accounts payable, \$500,000 of notes payable, and \$250,000 of accruals. The after-tax profit margin is forecasted to be 5 percent, and the forecasted payout ratio is 70 percent. Use this information to answer Problems 14-1

14-1. Use the AFN formula to forecast Carter's additional funds needed for the coming year.

$$AFN = (A^*/S_0) \Delta S - (L^*/S_0) \Delta S - m S_1 (1-d)$$

$$S_0 = \$5 \text{ million}; S_1 = \$6 \text{ million}; \Delta S = \$1 \text{ million}$$

Carter is at full capacity. Liabilities - A/P and Accruals will increase with sales.  $\therefore L^* = 250,000 + 250,000 = \$500,000$

$$A^* = \$3 \text{ million}; m = 5\%; d = 70\%$$

$$\begin{aligned} \Rightarrow AFN &= 3/5 (1) - .5/5 (1) - (.05)(6)(1-.7) \\ &= .6 - .1 - .09 = .410 \text{ million} \\ &= \$410,000 \end{aligned}$$

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14-2 What would be the additional funds needed if the Company's year end 2004 Assets had been \$4 million? Assume all other numbers are the same. Why is this AFN different from the one found in 14-1? Is the Company's "Capital intensity" the same or different?

$$A^* = 4 \text{ million}$$

$$\begin{aligned} \text{AFN} &= \left(\frac{4}{5}\right)(1) - (.1)(1) - (.05)(6)(.3) \\ &= .8 - .1 - .09 = .610 \\ &\quad \text{or } \$610,000 \end{aligned}$$

The firm has a greater Capital intensity  $\frac{4}{5}$  compared to  $\frac{3}{5}$   
 $\Rightarrow$  a larger increase in assets is required for a given increase in Sales.

More Assets are required to support a given level of Sales.

Assets	Upton 1998	Computus / Pro Forma Percent % sale	Addition	Pro Forma	Pro Forma Remaining	Pro Forma After Financing
Cash	3.5	.01		4.2		4.2
A/R	26.0	.743		31.2		31.2
Inv.	58.0	.166		69.60		69.6
CA	<del>100.0</del> 87.5			105.00		105.00
NFA	35.0	.1		42.00		42.00
TA	122.50			147.00		147.00

Liabilities						
A/P	9.0	0.0257		10.80		10.80
NIP	18.0			18.0 + 13.44		31.44
Accounts	8.5	0.0243		10.20		10.20
CL	35.5			39.0		52.44
Mortgage	6.0			6.0		6.0
Comm. Exp.	15.0			15.0		15.0
RE	66.0		7.56	73.56		73.56
	122.5			133.56		147.00
AJN =				13.44		

$PMOS = 10.5 / 350 = 3\%$   
 $Div. Payout = 4.2 / 10.5 = 40\%$   
 $NI = 350 \times 1.2 \times 0.03 = 12.6$

Addition to RE  
 $NI - Div.$   
 $12.6 - .4(12.6)$   
 $= 7.56$

14-5

$$\textcircled{c} \text{ CR} = 105 / 52.44 = 2.00x$$

CR low compared to 2.5x in 1998  
and ind. avg. of 3x

$$\text{DR} = \frac{D}{TA} = \frac{58.44}{147} = 39.8\%$$

DR too high compared to 33.9% in 1998  
and an industry avg. of 30%.

$$\begin{aligned} \text{ROE} &= \frac{(\text{PMOS})(\text{Sales})}{\text{Stock} + \text{RE}} = \frac{\text{NI}}{\text{Equity}} \\ &= \frac{12.60}{88.56} = 14.2\% \end{aligned}$$

14-5 (c)

ROE is good Compared with 13% in 1998  
and a 12% ind. average

$$\text{(a) } \text{(i) } \text{AGN} = \frac{122.5}{350} (70) - \frac{17.5}{350} (70) \\ - (.03)(.6) (364 + 378 + 392 + 406 + 420)$$

$$= \$ 24.5 - 3.5 - 35.28 = -14.28 \text{ million}$$

⇒ The firm has a funding Surplus of  
\$ 14.2 million!

14-5

(d)

# Upton Computers / Pro Forma

(2)	1998	forecast % Sales 2003	Addition	Pro Forma	Income	Pro Forma after financing
CA	87.50	.25	1	108.75		105
N3A	35.00	.1		42.00		42
TA	<u>122.50</u>			<u>147.00</u>		<u>147.00</u>
A/P	9.00	.257		10.8		10.80
NIP	18.00			18.00	- 14.28	3.72
Accruals	<u>8.50</u>	0.0243		<u>10.2</u>		<u>10.20</u>
CL	35.50			39.00		24.72
Mortgage	6.00			6.00		6.00
Stock	15.00			15.00		15.00
RE	<u>66.00</u>		35.28	<u>101.28</u>		<u>101.28</u>
TL+Equity	<u>122.50</u>			<u>161.28</u>		<u>147.00</u>

ADN - 14.28

PMOs = 3% , Div. Payment = 40%

$$\begin{aligned}
 NI &= .03 \times (364 + 378 + 392 + 406 + 420) \\
 &= 58.8
 \end{aligned}$$