

Begin with the partial model in the file *Ch02 P15 Build a Model.xlsx* on the textbook's Web site.

- Using the financial statements shown here for Lan & Chen Technologies, calculate net operating working capital, total net operating capital, net operating profit after taxes, free cash flow, and return on invested capital for 2016. (*Hint: Start with the partial model in the file and report all dollar figures in thousands to reduce clutter.*)
- Assume there were 15 million shares outstanding at the end of 2016, the year-end closing stock price was \$65 per share, and the after-tax cost of capital was 8%. Calculate EVA and MVA for 2016.

**Lan & Chen Technologies: Income Statements for Year Ending December 31
 (Thousands of Dollars)**

	2016	2015
Sales	\$945,000	\$900,000
Expenses excluding depreciation and amortization	812,700	774,000
EBITDA	\$132,300	\$126,000
Depreciation and amortization	33,100	31,500
EBIT	\$ 99,200	\$ 94,500
Interest expense	10,470	8,600
Pre-tax earnings	\$ 88,730	\$ 85,900
Taxes (40%)	35,492	34,360
Net income	\$ 53,238	\$ 51,540
Common dividends	\$ 43,300	\$ 41,230
Addition to retained earnings	\$ 9,938	\$ 10,310

**Lan & Chen Technologies: December 31 Balance Sheets
 (Thousands of Dollars)**

	2016	2015
Assets		
Cash and cash equivalents	\$ 47,250	\$ 45,000
Short-term investments	3,800	3,600
Accounts receivable	283,500	270,000
Inventories	141,750	135,000
Total current assets	\$476,300	\$453,600
Net fixed assets	330,750	315,000
Total assets	\$807,050	\$768,600
Liabilities and Equity		
Accounts payable	\$ 94,500	\$ 90,000
Accruals	47,250	45,000
Notes payable	26,262	9,000
Total current liabilities	\$168,012	\$144,000
Long-term debt	94,500	90,000
Total liabilities	\$262,512	\$234,000
Common stock	444,600	444,600
Retained earnings	99,938	90,000
Total common equity	\$544,538	\$534,600
Total liabilities and equity	\$807,050	\$768,600

(3-15)
**Build a Model: Ratio
Analysis**

Start with the partial model in the file *Ch03 P15 Build a Model.xlsx* from the textbook's Web site. Joshua & White (J&W) Technology's financial statements are also shown here. Answer the following questions. (*Note: Industry average ratios are provided in Ch03 P15 Build a Model.xlsx.*)

- a. Has J&W's liquidity position improved or worsened? Explain.
- b. Has J&W's ability to manage its assets improved or worsened? Explain.
- c. How has J&W's profitability changed during the last year?
- d. Perform an extended DuPont analysis for J&W for 2015 and 2016. What do these results tell you?
- e. Perform a common size analysis. What has happened to the composition (that is, percentage in each category) of assets and liabilities?
- f. Perform a percentage change analysis. What does this tell you about the change in profitability and asset utilization?

Joshua & White Technology: December 31 Balance Sheets (Thousands of Dollars)

<i>Assets</i>	2016	2015	<i>Liabilities & Equity</i>	2016	2015
Cash	\$ 21,000	\$ 20,000	Accounts payable	\$ 33,600	\$ 32,000
Short-term investments	3,759	3,240	Accruals	12,600	12,000
Accounts receivable	52,500	48,000	Notes payable	<u>19,929</u>	<u>6,480</u>
Inventories	<u>84,000</u>	<u>56,000</u>	Total current liabilities	\$ 66,129	\$ 50,480
Total current assets	\$161,259	\$127,240	Long-term debt	<u>67,662</u>	<u>58,320</u>
Net fixed assets	<u>218,400</u>	<u>200,000</u>	Total liabilities	\$133,791	\$108,800
Total assets	<u>\$379,659</u>	<u>\$327,240</u>	Common stock	183,793	178,440
			Retained earnings	<u>62,075</u>	<u>40,000</u>
			Total common equity	<u>\$245,868</u>	<u>\$218,440</u>
			Total liabilities & equity	<u>\$379,659</u>	<u>\$327,240</u>

Joshua & White Technology: Income Statements for Years Ending December 31 (Thousands of Dollars)

	2016	2015
Sales	\$420,000	\$400,000
COGS excluding depr. & amort.	300,000	298,000
Depreciation and amortization	19,660	18,000
Other operating expenses	<u>27,600</u>	<u>22,000</u>
EBIT	\$ 72,740	\$ 62,000
Interest expense	<u>5,740</u>	<u>4,460</u>
EBT	\$ 67,000	\$ 57,540
Taxes (40%)	<u>26,800</u>	<u>23,016</u>
Net income	<u>\$ 40,200</u>	<u>\$ 34,524</u>
Common dividends	\$ 18,125	\$ 17,262

Other Data	2016	2015
Year-end stock price	\$ 90.00	\$ 96.00
Number of shares (Thousands)	4,052	4,000
Lease payment (Thousands of Dollars)	\$20,000	\$20,000
Sinking fund payment (Thousands of Dollars)	\$ 5,000	\$ 5,000