

18. a.

| <u>Income Statement</u> |               |
|-------------------------|---------------|
| Sales                   | \$33,106      |
| Cost of goods sold      | 23,624        |
| Depreciation            | <u>5,877</u>  |
| EBIT                    | \$ 3,605      |
| Interest                | <u>2,650</u>  |
| Taxable income          | \$ 955        |
| Taxes (22%)             | <u>210</u>    |
| Net income              | <u>\$ 745</u> |

$$b. \text{ OCF} = \text{EBIT} + \text{Depreciation} - \text{Taxes} \\ = \$3,605 + 5,877 - 210 = \$9,272$$

$$c. \text{ Change in NWC} = \text{NWC}_{\text{end}} - \text{NWC}_{\text{beg}} \\ = (\text{CA}_{\text{end}} - \text{CL}_{\text{end}}) - (\text{CA}_{\text{beg}} - \text{CL}_{\text{beg}}) \\ = (\$8,612 - 4,575) - (\$6,970 - 3,920) \\ = \$4,037 - 3,050 = \$987$$

$$\text{Net capital spending} = \text{NFA}_{\text{end}} - \text{NFA}_{\text{beg}} + \text{Depreciation} \\ = \$24,394 - 19,820 + 5,877 = \$10,451$$

$$\text{CFA} = \text{OCF} - \text{Change in NWC} - \text{Net capital spending} \\ = \$9,272 - 987 - 10,451 = -\$2,166$$

The cash flow from assets can be positive or negative, since it represents whether the firm raised funds or distributed funds on a net basis. In this problem, even though net income and OCF are positive, the firm invested heavily in both fixed assets and net working capital; it had to raise a net \$2,166 in funds from its stockholders and creditors to make these investments.

$$d. \text{ Cash flow to creditors} = \text{Interest} - \text{Net new LTD} = \$2,650 - 0 = \$2,650$$

$$\text{Cash flow to stockholders} = \text{Cash flow from assets} - \text{Cash flow to creditors} \\ = -\$2,166 - 2,650 = -\$4,816$$

We can also calculate the cash flow to stockholders as:

$$\text{Cash flow to stockholders} = \text{Dividends} - \text{Net new equity}$$

Solving for net new equity, we get:

$$\text{Net new equity} = \$1,888 - (-\$4,816) = \$6,704$$

The firm had positive earnings in an accounting sense ( $\text{NI} > 0$ ) and had positive cash flow from operations. The firm invested \$987 in new net working capital and \$10,451 in new fixed assets. The firm had to raise \$2,166 from its stakeholders to support this new investment. It accomplished this by raising \$6,704 in the form of new equity. After paying out \$1,888 of this in the form of dividends to shareholders and \$2,650 in the form of interest to creditors, \$2,166 was left to meet the firm's cash flow needs for investment.

19. a.  $\text{Total assets}_{2017} = \$1,206 + 4,973 = \$6,179$   
 $\text{Total liabilities}_{2017} = \$482 + 2,628 = \$3,110$   
 $\text{Owners' equity}_{2017} = \$6,179 - 3,110 = \$3,069$
- $\text{Total assets}_{2018} = \$1,307 + 5,988 = \$7,295$   
 $\text{Total liabilities}_{2018} = \$541 + 2,795 = \$3,336$   
 $\text{Owners' equity}_{2018} = \$7,295 - 3,336 = \$3,959$
- b.  $\text{NWC}_{2017} = \text{CA}_{2017} - \text{CL}_{2017} = \$1,206 - 482 = \$724$   
 $\text{NWC}_{2018} = \text{CA}_{2018} - \text{CL}_{2018} = \$1,307 - 541 = \$766$   
 $\text{Change in NWC} = \text{NWC}_{2018} - \text{NWC}_{2017} = \$766 - 724 = \$42$

- c. We can calculate net capital spending as:

$$\begin{aligned}\text{Net capital spending} &= \text{Net fixed assets}_{2018} - \text{Net fixed assets}_{2017} + \text{Depreciation} \\ \text{Net capital spending} &= \$5,988 - 4,973 + 1,363 = \$2,378\end{aligned}$$

So, the company had a net capital spending cash flow of \$2,378. We also know that net capital spending is:

$$\begin{aligned}\text{Net capital spending} &= \text{Fixed assets bought} - \text{Fixed assets sold} \\ \$2,378 &= \$2,496 - \text{Fixed assets sold} \\ \text{Fixed assets sold} &= \$2,496 - 2,378 = \$118\end{aligned}$$

To calculate the cash flow from assets, we must first calculate the operating cash flow. The income statement is:

| <i>Income Statement</i> |                 |
|-------------------------|-----------------|
| Sales                   | \$15,301        |
| Costs                   | 7,135           |
| Depreciation expense    | 1,363           |
| EBIT                    | \$ 6,803        |
| Interest expense        | 388             |
| EBT                     | \$ 6,415        |
| Taxes (21%)             | 1,347           |
| Net income              | <u>\$ 5,068</u> |

So, the operating cash flow is:

$$\text{OCF} = \text{EBIT} + \text{Depreciation} - \text{Taxes} = \$6,803 + 1,363 - 1,347 = \$6,819$$

And the cash flow from assets is:

$$\begin{aligned}\text{Cash flow from assets} &= \text{OCF} - \text{Change in NWC} - \text{Net capital spending} \\ &= \$6,819 - 42 - 2,378 = \$4,399\end{aligned}$$

- d.  $\text{Net new borrowing} = \text{LTD}_{18} - \text{LTD}_{17} = \$2,795 - 2,628 = \$167$   
 $\text{Cash flow to creditors} = \text{Interest} - \text{Net new LTD} = \$388 - 167 = \$221$   
 $\text{Net new borrowing} = \$167 = \text{Debt issued} - \text{Debt retired}$   
 $\text{Debt retired} = \$504 - 167 = \$337$