

Chapter 3: Accounting and Finance

1.

Assets		Liabilities & Shareholders' Equity	
Cash	€10,000	Accounts payable	€27,000
Accounts receivable	22,000	Short-term bank loan	40,000
Inventory	165,000	Long-term debt	100,000
Store & property	210,000	Shareholders' equity	240,000
Total assets	€407,000	Total liabilities & Shareholders' equity	€407,000

3. Accounting revenues and expenses can differ from cash flows because some items included in the computation of revenues and expenses do not entail immediate cash flows. For example, sales made on credit are considered revenue even though cash is not collected until the customer makes a payment. Also, depreciation expense reduces net income, but does not entail a cash outflow. Conversely, some cash flows are not included in revenues or expenses. For example, collection of accounts receivable results in a cash inflow but is not revenue. Purchases of inventory require cash outlays, but are treated as investments in working capital, not as expenses.
5. a. Cash will increase as one current asset (inventory) is exchanged for another (cash).
- b. Cash will increase. The machine will bring in cash when it is sold, but the lease payments will be made over several years.
- c. The firm will use cash to buy back the shares from existing shareholders. Cash balance will decrease.
- d. None
- e. Cash will decrease because the firm use cash top pay off account payable
- f. $40,000(1-0.35) = 26,000$. Cash will decrease by only 26,000. The firm will save 24,000 by deducting interest expenses form tax calculations.

9. Net income = change in retained earnings + dividends
 ⇒ dividends = Net income - change in retained earnings
 ⇒ dividends = £9000,000 - (£37,000,000 – £34,000,000)

11.

Sales	\$ 0	\$150,000	\$ 0
Cost of goods sold	0	100,000	0
Net income**	\$ 0	\$ 50,000	\$ 0
<i>minus</i> ΔAccounts	0	150,000	-150,000
<i>minus</i> ΔInventory	100,000	-100,000	0
Cash flow*	-100,000	0	150,000
*Cash flow = Sales – COGS – ΔA/R – ΔInventory			
** Net income = Sales – COGS			

13. Cash flow from operations can be positive even if net income is negative. For example, if depreciation expenses are large, then negative net income might correspond to positive cash flow because depreciation is treated as an expense in calculating net income, but does not represent a cash outflow.

Conversely, if net income is positive, but a large portion of sales are made on credit, cash flow can be negative since the sales are revenue but do not yet generate cash.

15. Cash flow = Profits – Δ Accounts receivable – 10,000
 + Δ Accounts payable + 5,000
 – Δ Inventory –(-2,000)

Cash flow = Profits – 10,000 + 5,000 – (-2,000) = Profits – 3,000

Therefore, cash flow is \$3,000 less than profits. This corresponds to the increase of \$3,000 in net working capital.

16. a.

Sales	\$ 14.00 million
– Cost of goods sold	8.00
– Interest expense	1.00
– <u>Depreciation expense</u>	<u>2.00</u>
Taxable income	3.00
– <u>Taxes (35%)</u>	<u>1.05</u>
Net income	\$ 1.95 million

Cash flow = Net income + Depreciation expense = \$3.95 million

- b. If depreciation expense were increased by \$1 million, net income would be *reduced* by \$0.65 million. Cash flow (= net income + depreciation) would be *increased* by: $-\$0.65 \text{ million} + \$1 \text{ million} = \$0.35 \text{ million}$

Cash flow increases because depreciation expense is not a cash outflow, but increasing the depreciation expense for tax purposes reduces taxes paid by \$0.35 million.

- c. The impact on stock price is likely to be positive. Cash available to the firm would increase. The reduction in net income would be recognized as resulting entirely from accounting changes, not as a consequence of any changes in the underlying profitability of the firm.
- d. If interest expense were \$1 million higher, both net income and cash flow would decrease by \$0.65 million, i.e., by the \$1 million increase in expenses less the \$0.35 million reduction in taxes. This differs from part (b) because, in contrast to depreciation, interest expense represents an actual cash outlay.

17. a. If the firm paid income taxes of \$2,000, and the average tax rate was 20%, then taxable income must have been: $\$2,000/0.20 = \$10,000$

Therefore: Net income = taxable income – taxes = \$8,000

b.

Revenues	???
– Cost of goods sold	8,000
– Administrative expenses	3,000
– Depreciation expense	1,000
– <u>Interest expense</u>	<u>1,000</u>
Taxable income	\$10,000 [from part (a)]

We conclude that revenues were \$23,000.

c.

Revenues	\$23,000
– Cost of goods sold	8,000
– Administrative expenses	3,000
– <u>Depreciation expense</u>	<u>1,000</u>
EBIT	\$11,000

19.

Assets	<u>2005</u>	<u>2006</u>	Liabilities and Owners' equity	<u>2005</u>	<u>2006</u>
	Current assets	310		420	Current liabilities
Net fixed assets	<u>1,200</u>	<u>1,420</u>	Long-term debt	<u>830</u>	<u>920</u>
Total assets	1,510	1,840	Total liabilities	1,040	1,160
			Owners' equity	470	680

- a. Owners' equity = Total assets – Total liabilities (as shown in the balance sheet above)
- b. If the firm issued no stock, the increase in owners' equity must be due entirely to retained earnings. Since owners' equity increased by \$210, and dividends were \$100, net income must have been \$310.
- c. Since net fixed assets increased by \$220, and the firm purchased \$300 of new fixed assets, the depreciation charge must have been \$80.
- d. Net working capital increased by \$80, from $(\$310 - \$210) = \$100$ in 2005 to $(\$420 - \$240) = \$180$ in 2006.
- e. Since long-term debt increased by \$90, and the firm issued \$200 of new long-term debt, \$110 of outstanding debt must have been paid off.