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## Chapter 2

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### Discussion Questions

- 2-1. The price-earnings ratio will be influenced by the earnings and sales growth of the firm, the risk or volatility in performance, the debt-equity structure of the firm, the dividend payment policy, the quality of management, and a number of other factors. The ratio tends to be future-oriented, and will be higher the more positive the outlook
- 2-2. Book value per share is arrived at by taking the cost of the assets and subtracting out liabilities and preferred stock and dividing by the number of common shares outstanding. It is based on the historical costs of the assets. Market value per share is based on current assessed value of the firm in the marketplace and may bear little relationship to original cost. Besides the disparity between book and market value caused by the historical cost approach, other contributing factors are the growth prospects for the firm, the quality of management, and the industry outlook. To the extent these are quite negative, or positive, market value may differ widely from book value.
- 2-3. The only way amortization generates cash flows for the company is by serving as a tax shield against reported income. Allowable amortization for tax purposes is known as capital cost allowance (CCA). In most instances this will be different than accounting amortization. This non-cash deduction may provide cash flow equal to the tax rate times the amortization charged. This much in taxes will be saved, while no cash payments occur.
- 2-4. Accumulated amortization is the sum of all past and present amortization charges, while amortization expense is the current year's charge. They are related in that the sum of all prior amortization expense should be equal to accumulated amortization (subject to some differential related to asset write-offs).
- 2-5. The balance sheet, for private companies using ASPE, is based on historical costs. When prices are rising rapidly, historical cost data may lose much of their meaning - particularly for plant, equipment and inventory. However, the balance sheet of public companies using IFRS is based on market values and opposite order whereby non-current assets are listed ahead of current assets. The same applies to the liabilities section that lists non-current liabilities first.
- 2-6. The income statement and balance sheet are based on the accrual method of accounting, which attempts to match revenues and expenses in the period in which they occur. However, accrual accounting does not attempt to properly assess the cash flow position of the firm. The statement of changes in financial position fulfills this need. The values on these statements will differ for public companies using IFRS compared to private firms.
- 2-7. The sections of the statement of cash flows and sources of information are:
- Cash flows from operating activities (Income statement)
  - Cash flows from investing activities (non-current assets section of balance sheet)
  - Cash flows from financing activities (non-current liabilities and equity section)

## Chapter 2

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The payment of cash dividends falls into the financing activities category.

- 2-8. We can examine the various sources that were utilized by the firm as indicated on the statement. Possible sources for the financing of an increase in assets might be profits, increases in liabilities, or decreases in other asset accounts.

- 2-9. Free cash flow is equal to:

Cash flow from operating activities

Minus: Capital expenditures required to maintain the productive capacity of the firm.

Minus: Dividends (required to maintain the payout on common stock and to cover any preferred stock obligation).

The analyst or banker normally looks at free cash flow to determine whether there are sufficient excess funds to pay back the loan associated with the leveraged buy-out (a company with limited cash acquiring stocks of another company to acquire control).

- 2-10. Interest expense is a tax deductible item to the corporation, while dividend payments are not. The net cost to the corporation of interest expense is the amount paid multiplied by the difference of (one minus the applicable tax rate). The firm must bear the full burden of the cash outflow of dividend payments because they are not an expense, but rather a distribution out of retained earnings.

### Internet Resources and Questions

1. [www.cica.ca](http://www.cica.ca), [www.cpa.ca](http://www.cpa.ca)
2. [www.cma-canada.org](http://www.cma-canada.org)
3. [www.cga-canada.org](http://www.cga-canada.org)
4. [www.ifrs.org](http://www.ifrs.org)
5. [www.kpmg.ca/taxi](http://www.kpmg.ca/taxi)
6. [www.pwc.com/ca/tax](http://www.pwc.com/ca/tax)
7. [www.cra-arc.gc.ca](http://www.cra-arc.gc.ca)

## Problems

(The following solutions use the 2014 tax rates or rates given in the text. The 2013 rates are also shown but subject to change).

### 2-1. Bradley Bus Inc.

<i>a.</i>	<b>Last Year</b>	
Earnings after taxes		<u>\$600,000</u>
Shares outstanding		300,000
Earnings per share (\$600,000/300,000 shares)		<b>\$2.00</b>
<i>b.</i>	<b>Current Year</b>	
Earnings after taxes (\$600,000 × 125%)		<u>\$750,000</u>
Shares outstanding (300,000 + 40,000)		340,000
Earnings per share (\$750,000/340,000 shares)		<b>\$2.21</b>

### 2-2. Dover River Company

<i>a.</i> Operating profit (EBIT).....	\$200,000
Interest expense.....	<u>10,000</u>
Earnings before taxes (EBT).....	190,000
Taxes.....	<u>61,250</u>
Earnings after taxes (EAT).....	128,750
Preferred dividends .....	<u>18,750</u>
Available to common shareholders.....	<u>\$110,000</u>
Common dividends.....	\$ 30,000
Increase in retained earnings.....	\$ 80,000
EPS = Earnings available to common shareholders/ Number of shares of common stock outstanding = \$110,000/20,000 shares	<b>= \$5.50 per share</b>
Dividends per Share = \$30,000/20,000 shares	<b>= \$1.50 per share</b>
<i>b.</i> Payout Ratio=Dividend per share/Earnings per share =1.50/5.50 per share =	<b>27.27%</b>
<i>c.</i> Increase in retained earnings =	<b>\$80,000</b>
<i>d.</i> Price/earnings ratio= \$26.40/ \$5.50 =	<b>4.8 ×</b>

**2-3. Far East Fast Foods**

**a. 2014**

Earnings after taxes	<u>\$230,000</u>
Shares outstanding	200,000
Earnings per share	<b>\$1.15</b>

**b. 2015**

Earnings after taxes (\$230,000 × 125%)	<u>\$287,500</u>
Shares outstanding	230,000
Earnings per share	<b>\$1.25</b>

**2-4. Sheridan Travel**

a.  $\text{EPS} = \frac{\$600,000}{300,000} = \text{\$2.00 per share}$

b. New Net Income:  $\$600,000 \times 125\% = \$750,000$   
 Shares:  $300,000 + 40,000 = 340,000$  shares  
 New EPS =  $\frac{\$750,000}{340,000} = \text{\$2.21 per share}$



**2-5. Moore Enterprise/ Kipling Corporation**

	Moore	Kipling
Gross profit.....	\$880,000	\$880,000
Selling and adm. expense...	<u>120,000</u>	<u>120,000</u>
	760,000	760,000
Amortization.....	<u>360,000</u>	<u>60,000</u>
Operating profit.....	400,000	700,000
Taxes (40%).....	<u>160,000</u>	<u>280,000</u>
Earnings after-taxes.....	<u>240,000</u>	<u>420,000</u>
Plus: Amortization Expense...	360,000	60,000
Cash Flow.....	<b>\$600,000</b>	<b>\$480,000</b>

Moore had \$300,000 more in amortization, which provided \$120,000 ( $0.40 \times \$300,000$ ) more in cash flow. Moore paid  $0.40 \times 300,000$  (difference in operating income) = \$120,000 less taxes.

- 2-6. Yes, Aztec Book Company made a profit of \$13,920 for the year ended December 31, 2015.**

**Aztec Book Company  
Income Statement  
For the Year ended December 31, 2015**

Sales (1,400 books at \$84 each).....	\$117,600
Cost of goods sold (1,400 books at \$63 each).....	<u>88,200</u>
Gross Profit.....	29,400
Selling expense.....	2,000
Amortization expense.....	<u>5,000</u>
Operating profit.....	22,400
Interest expense.....	<u>5,000</u>
Earnings before taxes.....	17,400
Taxes @ 20%.....	<u>3,480</u>
Earnings after taxes.....	<u><b>\$13,920</b></u>

**2-7. Carr Auto Wholesalers**  
**Income Statement**  
**For the Year ended December 31, 2015**

*a.*

Sales.....	\$900,000
Cost of goods sold @ 65%.....	<u>585,000</u>
Gross profit.....	315,000
Selling and administration expense @ 9%.....	81,000
Amortization expense.....	<u>10,000</u>
Operating profit.....	224,000
Interest expense.....	<u>8,000</u>
Earnings before taxes.....	216,000
Taxes @ 30%.....	<u>64,800</u>
Earnings after taxes.....	<b><u>\$151,200</u></b>

*b.*

Sales.....	\$1,000,000
Cost of goods sold @ 60%.....	<u>600,000</u>
Gross profit.....	400,000
Selling and administration expense @ 12%.....	120,000
Amortization expense.....	<u>10,000</u>
Operating profit.....	270,000
Interest expense.....	<u>15,000</u>
Earnings before taxes.....	255,000
Taxes @ 30% .....	<u>76,500</u>
Earnings after taxes.....	<b><u>\$ 178,500</u></b>

Ms. Hood's idea will increase profitability.

**2-8.**

**Income Statement**

Sales

Cost of goods sold

Gross profit

Selling and administrative expense

Amortization expense

Operating profit

Interest expense

Earnings before taxes

Taxes

Earnings after taxes

Preferred stock dividends

Earnings available to common shareholders

Shares outstanding

Earnings per share

**2-9. David's Magic Stores**

a. Operating profit (EBIT).....	\$210,000
Interest expense.....	<u>30,000</u>
Earnings before taxes (EBT).....	180,000
Taxes.....	<u>59,300</u>
Earnings after taxes (EAT).....	120,700
Preferred dividends .....	<u>24,700</u>
Available to common shareholders.....	<u>\$ 96,000</u>
Common dividends.....	36,000
Increase in retained earnings.....	<u>\$ 60,000</u>

$$\begin{aligned} \text{EPS} &= \frac{\text{Earnings available to common shareholders}}{\text{Number of shares of common stock outstanding}} \\ &= \$96,000/16,000 \text{ shares} \\ &= \mathbf{\$6.00 \text{ per share}} \end{aligned}$$

$$\text{Dividends per Share} = \$36,000/16,000 \text{ shares} = \mathbf{\$2.25 \text{ per share}}$$

$$b. \text{ Payout ratio} = \$2.25/ \$6.00 = .375 = \mathbf{37.5\%}$$

$$c. \text{ Increase in retained earnings} = \mathbf{\$60,000}$$

$$d. \text{ Price/earnings ratio} = \$90/ \$6.00 = \mathbf{15.0}$$

**2-10. Thermo Dynamics**

a. Retained earnings, December 31, 2015.....	\$450,000
Less: Retained earnings, December 31, 2014....	<u>400,000</u>
Change in retained earnings.....	50,000
Add: Common stock dividends.....	<u>25,000</u>
Earnings available to common shareholders.....	<u><u>\$ 75,000</u></u>

$$\begin{aligned} b. \text{ Earnings per share} &= \$75,000/ 20,000 \text{ shares} \\ &= \mathbf{\$3.75 \text{ per share}} \end{aligned}$$

$$c. \text{ Payout ratio} = \$25,000/ \$75,000 = .333 = \mathbf{33.33\%}$$

$$d. \text{ Price/earnings ratio} = \$30.00/ \$3.75 = \mathbf{8.0 \times}$$

**2-11.                                      Brandon Fast Foods Inc.**

a. Operating Income – Taxes – Interest = Net income after taxes  
= \$210,000 – \$59,300 – \$30,000 = \$120,700

Net income after taxes – Preferred dividends = Earnings available  
to common shareholders

= \$120,700 – \$24,700 = \$96,000

EPS = \$96,000 / 16,000 shares = **\$6 EPS**

Common Dividends per Share = Div. paid /shares

= \$36,000/16,000 shares = **\$2.25 Dividend per Share**

b. Increase in RE = Income – Dividends – Preferred Dividend  
= \$120,700 – \$36,000 – \$24,700 = **\$60,000.**

**2-12.                                      Balance Sheet Items**

Common stock – noncurrent

Accounts payable – current

Preferred stock – noncurrent

Prepaid expenses – current

Bonds payable – noncurrent

Inventory – current

Investments – noncurrent

Marketable securities – current

Accounts receivable – current

Plant and equipment – noncurrent

Accrued wages payable – current

Retained earnings – noncurrent

## 2-13. **Balance Sheet**

### **Assets**

Current Assets		
Cash.....		\$ 10,000
Marketable securities.....		20,000
Accounts receivable.....	\$48,000	
Less: Allowance for bad debts.....	<u>6,000</u>	
		42,000
Inventory.....		<u>66,000</u>
Total Current Assets.....		138,000
Other Assets:		
Investments.....		20,000
Capital Assets:		
Plant and equipment.....	680,000	
Less: Accumulated amortization..	<u>300,000</u>	
Net plant and equipment.....		<u>380,000</u>
Total Assets.....		<u>\$538,000</u>

### **Liabilities and Shareholders' Equity**

Current Liabilities:	
Accounts payable.....	\$ 35,000
Notes payable.....	<u>33,000</u>
Total current Liabilities.....	68,000
Long-Term Liabilities.....	
Bonds payable.....	<u>136,000</u>
Total Liabilities.....	204,000
Shareholders' Equity:	
Preferred stock, 1,000 shares outstanding.....	50,000
Common stock, 100,000 shares outstanding....	188,000
Retained earnings.....	<u>96,000</u>
Total Shareholders' Equity.....	<u>334,000</u>
Total Liabilities and Shareholders' Equity.....	<u>\$538,000</u>

**2-14. Bengal Wood Company**

Current assets.....	\$100,000
Capital assets.....	<u>140,000</u>
Total assets.....	240,000
– Current liabilities.....	60,000
– Long-term liabilities.....	<u>90,000</u>
Shareholders' equity.....	90,000
– Preferred stock obligation.....	<u>20,000</u>
Net worth assigned to common.....	<u>\$ 70,000</u>
Common shares outstanding.....	17,500
Book value (net worth) per share...	<b>\$4.00</b>

**2-15. Monique's Boutique**

a. Total assets.....	\$600,000
– Current liabilities.....	150,000
– Long-term liabilities.....	<u>120,000</u>
Shareholders' equity.....	330,000
– Preferred stock.....	<u>75,000</u>
Net worth assigned to common.....	<u>\$255,000</u>
Common shares outstanding.....	30,000
Book value (net worth) per share.....	<b>\$8.50</b>
b. Earnings available to common.....	<u>\$33,600</u>
Shares outstanding.....	30,000
Earnings per share.....	<b>\$1.12</b>

$$\begin{aligned} \text{P/E ratio} \times \text{earnings per share} &= \text{price} \\ 12 \times \$1.12 &= \mathbf{\$13.44} \end{aligned}$$

$$\begin{aligned} \text{c. Market value per share (price) to book value per share} \\ \$13.44/\$8.50 &= \mathbf{1.58} \end{aligned}$$



**2-16. Phelps Labs**

a. Total assets.....	\$1,800,000
– Current liabilities.....	595,000
– Long-term liabilities.....	<u>630,000</u>
Shareholders' equity.....	575,000
– Preferred stock.....	<u>165,000</u>
Net worth assigned to common.....	<u>\$ 410,000</u>
Common shares outstanding.....	20,000
Book value (net worth) per share.....	<b>\$20.50</b>
b. Earnings available to common.....	<u>\$45,000</u>
Shares outstanding.....	20,000
Earnings per share.....	<b>\$2.25</b>
P/E ratio × earnings per share = price	
13 × \$2.25 =	<b>\$29.25</b>
c. Market value per share (price) to book value per share	
\$29.25/\$20.50 =	<b>1.43</b>

**2-17. Phelps Labs (Continued)**

2 × book value	= price
2 × \$20.5	= \$41.00
P/E ratio	= \$41.00/\$2.25
	= <b>18.22</b>

2-18.

**Appropriate Financial Statement**

1. Balance Sheet (BS)
2. Income Statement (IS)
3. Current Assets (CA)
4. Capital Assets (Cap A)
5. Current Liabilities (CL)
6. Long-Term Liabilities (LL)
7. Shareholders Equity (SE)

<i>Indicate Whether the Item is on Balance Sheet or Income Statement</i>	<i>If the Item is on Balance Sheet, Designate Which Category</i>	<i>Item</i>
BS	SE	Retained earnings
IS		Income tax expense
BS	CA	Accounts receivable
BS	SE	Common stock
BS	LL	Bonds payable, maturity 2022
BS	CL	Notes payable (6 months)
IS		Net income
IS		Selling and administrative expenses
BS	CA	Inventories
BS	CL	Accrued expenses
BS	CA	Cash
BS	Cap A	Plant and equipment
IS		Sales
IS		Operating expenses
BS	CA	Marketable securities
BS	CL	Accounts payable
IS		Interest expense
BS	CL	Income tax payable

**2-19. Cash Flow Impact**

Increase in inventory -- decreases cash flow (use)  
 Decrease in prepaid expenses -- increases cash flow (source)  
 Decrease in accounts receivable -- increases cash flow (source)  
 Increase in cash -- decreases cash flow (use)  
 Decrease in inventory -- increases cash flow (source)  
 Dividend payment -- decreases cash flow (use)  
 Increase in short-term notes payable -- increases cash flow (source)  
 Amortization expense – does not affect cash flow  
 (However in the cash flow statement it is added to net income to  
 determine cash provided by operations)  
 Decrease in accounts payable -- decreases cash flow (use)  
 Increase in long-term investments -- decreases cash flow (use)

**2-20. Jupiter Corporation – Saturn Corporation**

	Jupiter	Saturn
Gross profit.....	\$700,000	\$700,000
Selling and adm. expense...	160,000	160,000
Amortization.....	<u>240,000</u>	<u>400,000</u>
Operating profit.....	300,000	140,000
Taxes (40%).....	<u>120,000</u>	<u>56,000</u>
Earnings after taxes.....	<u>180,000</u>	<u>84,000</u>
Plus amortization expense...	240,000	400,000
Cash Flow.....	<b>\$420,000</b>	<b>\$484,000</b>

Saturn had \$160,000 more in amortization, which provided \$64,000  
 ( $0.40 \times \$160,000$ ) more in cash flow. We observe that Saturn's taxes  
 were less by:  $\$120,000 - \$56,000 = \$64,000$  ( $0.40 \times \$160,000$ ).

2-21.

**Loofa Corporation**

a.

## Statement of Cash Flows

For the Year Ended December 31, 2015

**Operating activities:**

Net income (earnings after taxes).....		\$ 54,610
Add items not requiring an outlay of cash:		
Amortization.....	8,190	<u>8,190</u>
Cash flow from operations		62,800
Changes in non-cash working capital:		
Decrease in accounts receivable....	5,460	
Increase in inventory.....	(16,385)	
Increase in accounts payable.....	19,115	
Decrease in taxes payable.....	<u>(5,455)</u>	
Net change in non-cash working capital....		<u>2,735</u>
Cash provided by operating activities.....		65,535

**Investing activities:**

Increase in plant and equipment.....	<u>(19,115)</u>	
Cash used in investing activities.....		(19,115)

**Financing activities:**

Issue of common stock .....	16,385	
Common stock dividends paid.....	<u>(27,305)</u>	
Cash used in financing activities.....		<u>(10,920)</u>
Net increase in cash (equivalents) during the year..		35,500
Cash, beginning of year.....		<u>21,845</u>
Cash, end of year.....		<u>\$ 57,345</u>

- b. Major accounts contributing to positive change in cash position are: net income, payables and common stock issuance. Negative change comes from inventory, plant and equipment and dividends paid.

2-22.

**Waif Corporation**

a.

**Statement of Cash Flows**

For the Year Ended December 31, 2015

**Operating activities:**

Net income (earnings after taxes).....		\$ 91,000
Add items not requiring an outlay of cash:		
Amortization.....	\$ 22,000	<u>22,000</u>
Cash flow from operations		113,000
Changes in non-cash working capital:		
Increase in accounts receivable....	(12,600)	
Decrease in inventory.....	7,100	
Decrease in accounts payable.....	(10,000)	
Net change in non-cash working capital....		<u>(15,500)</u>
Cash provided by operating activities.....		97,500

**Investing activities:**

Increase in plant and equipment.....	(48,000)	
Sale of land.....	<u>27,000</u>	
Cash used in investing activities.....		(21,000)

**Financing activities:**

Retirement of bonds payable.....	(40,000)	
Issue of common stock.....	40,000	
Common stock dividends paid.....	<u>(39,400)</u>	
Cash used in financing activities.....		<u>(39,400)</u>
Net increase in cash (equivalents) during the year		37,100
Cash, beginning of year.....		<u>17,400</u>
Cash, end of year.....		<u>\$ 54,500</u>

- b. Major accounts contributing to positive change in cash position are: net income, amortization, sale of land and common stock issuance. Negative change from plant and equipment, bond retirement, and dividends paid.

2-23.

**Maris Corporation**

## Statement of Cash Flows

For the Year Ended December 31, 2015

**Operating activities:**

Net income (earnings after taxes).....		\$250,000
Add items not requiring an outlay of cash:		
Amortization.....	\$ 230,000	<u>230,000</u>
Cash flow from operations		480,000
Increase in accounts receivable..	(10,000)	
Increase in inventory.....	(30,000)	
Decrease in prepaid expenses....	30,000	
Increase in accounts payable....	250,000	
Decrease in accrued expenses...	<u>(20,000)</u>	
Net change in non-cash working capital.....		<u>220,000</u>
Cash provided by operating activities.....		700,000

**Investing activities:**

Decrease in investments.....	10,000	
Increase in plant and equipment.....	<u>(600,000)</u>	
Cash used in investing activities.....		(590,000)

**Financing activities:**

Increase in bonds payable .....	60,000	
Preferred stock dividends paid.....	(10,000)	
Common stock dividends paid.....	<u>(140,000)</u>	
Cash used in financing activities.....		<u>(90,000)</u>
Net increase (decrease) in cash		20,000
Cash, at beginning of year		<u>100,000</u>
Cash, end of year		<u>\$120,000</u>

**2-24. Maris Corporation (continued)**

Cash flow provided by operating activities exceeds net income by \$450,000. This occurs primarily because we add back amortization of \$230,000 and accounts payable increases by \$250,000. Thus, the reader of the cash flow statement gets important insights as to how much cash flow was developed from daily operations.

**2-25. Maris Corporation (continued)**

The buildup in plant and equipment of \$600,000 (gross) and \$370,000 (net) has been financed, in part, by the large increase in accounts payable (\$250,000). This is not a very satisfactory situation. Short-term sources of funds can always dry up, while capital asset needs are permanent in nature. The firm may wish to consider more long-term financing, such as a mortgage, to go along with profits, the increase in bonds payable, and the add-back of amortization.

**2-26. Maris Corporation (continued)**

$$\text{Book value per share} = \frac{\text{Shareholders' equity} - \text{Preferred stock}}{\text{Common shares outstanding}}$$

$$\text{Book value per share (2014)} = \frac{(\$1,390,000 - \$90,000)}{150,000} = \frac{\$1,300,000}{150,000} = \$8.67$$

$$\text{Book value per share (2015)} = \frac{(\$1,490,000 - \$90,000)}{150,000} = \frac{\$1,400,000}{150,000} = \$9.33$$

**2-27. Maris Corporation (continued)**

$$\begin{aligned} \text{Market value} &= 2.8 \times \$9.33 = \$26.12 \\ \text{P/E ratio} &= \$26.12 / \$1.60 \\ &= 16.33 \text{ or } 16\times \end{aligned}$$

2-28.

**Winfield Corporation**  
**Statement of Cash Flows**  
 December 31, 2015

**Operating activities:**

Net income (earnings after taxes).....		\$ 14,000
Add items not requiring an outlay of cash:		
Amortization (buildings).....	\$10,500	
Gain on sale of investment.....	(5,250)	
Loss on sale of equipment.....	<u>1,050</u>	
		<u>6,300</u>
Cash flow from operations:		20,300
Changes in non-cash working capital:		
Increase in accounts receivable...	(2,450)	
Increase in inventory.....	(5,250)	
Increase in prepaid expenses.....	(175)	
Decrease in accounts payable.....	(1,750)	
Increase in accrued expenses.....	1,925	
Decrease in interest payable.....	<u>(175)</u>	
Net change in non-cash working capital.....		<u>(7,875)</u>
Cash provided by operating activities.....		12,425

**Investing activities:**

Proceeds from the sale of stock.....	8,750	
Proceeds from the sale of equipment....	2,450	
Purchase of equipment.....	(15,750)	
Cash used in investing activities.....		(4,550)

**Financing activities:**

Payment towards notes payable.....	(6,125)	
Increase in bonds payable.....	5,250	
Common stock dividends paid.....	<u>(6,650)</u>	
Cash provided by financing activities.....		<u>(7,525)</u>
Net increase in cash		350
Cash, beginning of year		<u>1,400</u>
Cash, end of year		<u>\$ 1,750</u>



**2-29.**

**Gardner Corporation**

*a.*

Income Statement

For the Year Ending December 31, 2015

Sales.....	\$220,000
Cost of goods sold @ 60%.....	<u>132,000</u>
Gross profit.....	88,000
Selling and administration expense.....	22,000
Amortization expense.....	<u>20,000</u>
Operating profit.....	46,000
Interest expense (1).....	<u>6,000</u>
Earnings before taxes.....	40,000
Taxes @ 18%.....	<u>7,200</u>
Earnings after taxes.....	<u>\$32,800</u>

(1) Interest expense =  $(10\% \times \$20,000 + 8\% \times \$50,000) = \$6,000$

*b.*

**Gardner Corporation**

Balance Sheet

December 31, 2015

Cash	\$ 10,000	Accounts payable	\$ 15,000
Accounts receivable	16,500	Notes payable	26,000
Inventory	27,500	Bonds payable	<u>40,000</u>
Prepaid expenses	<u>12,000</u>		
Current assets	66,000	Current liabilities	81,000
Capital assets:		Shareholders' equity:	
Plant and Equipment	285,000	Common stock	75,000
less: acc. amortization	<u>70,000</u>	Retained earnings	<u>125,000</u>
Net plant & equipment	<u>215,000</u>		
Total assets	<u>\$281,000</u>	Total liabilities & equity	<u>\$281,000</u>

Acc. Amortization =  $\$50,000 + \$20,000 = \$70,000$

Retained Earnings =  $\$105,000 + \$20,000 = \$125,000$

c.

**Gardner Corporation**  
Statement of Cash Flows  
For the Year Ended December 31, 2015

**Operating activities:**

Net income (earnings after taxes).....		\$32,800
Add items not requiring an outlay of cash:		
Amortization.....	\$ 20,000	<u>20,000</u>
Cash flow from operations		52,800
Increase in accounts receivable..	(1,500)	
Increase in inventory.....	(2,500)	
Increase in accounts payable.....	3,000	
Increase in notes payable*.....	<u>6,000</u>	
Net change in non-cash working capital.....		<u>5,000</u>
Cash provided by operating activities.....		57,800

**Investing activities:**

Increase in plant and equipment.....	<u>(35,000)</u>	
Cash used in investing activities.....		<u>(35,000)</u>

**Financing activities:**

Decrease in bonds payable.....	(10,000)	
Common stock dividends paid.....	<u>(12,800)</u>	
Cash used in financing activities.....		<u>(22,800)</u>
Net increase (decrease) in cash		0
Cash, at beginning of year		<u>10,000</u>
Cash, end of year		<u>\$10,000</u>

\* **Note:** There is a healthy debate as to whether notes payable (trade related) should be included in operating or financing activities.

d. Major accounts contributing to positive change in cash position are: net income and amortization. Negative change is from plant and equipment, bonds payable and dividends paid.

**2-30. Ron's Aerobics Ltd.**

a. 2014

Net income	\$68,000
Taxes @ 16.5%	<u>11,220</u>
Income after taxes	<b><u>\$56,780</u></b>

2015

Net income	\$142,000
Taxes @ 13% (Text)	<u>18,460</u>
Income after taxes	<b><u>\$123,540</u></b>

**Note: Manitoba 2014 tax rate was actually changed to nil% on lower rate and 12% upper rate. Federal corp. low rate 11%**

b. The average tax rate is **14.75%**. (based on various assumptions).

**2-31. Inland Fisheries Corp**

a. Cash flow from operating activities	\$6.00 million
- Capital expenditures	2.00
- Common share dividends	0.75
- Preferred share dividends	<u>0.35</u>
Free cash flow	<b>\$2.90 million</b>

b. Free cash flow represents the funds that are available for special financial activities, such as the acquisition of another firm especially when it is a leveraged buyout.

**2-32. Nix Corporation**  
Income Statement

Sales.....	\$485,000
Cost of goods sold.....	<u>205,000</u>
Gross Profit.....	280,000
Selling and administrative expense.....	70,000
Amortization expense.....	<u>60,000</u>
Operating profit.....	150,000
Interest expense.....	<u>25,000</u>
Earnings before taxes.....	125,000
Taxes @ 14.5% (Given).....	<u>18,125</u>
Earnings after taxes.....	<b><u>\$106,875</u></b>

**Note: The B.C. 2013 combined tax rate is changed to 13.5%**

**2-33. Nix Corporation (Continued)**

$$\begin{aligned}\text{Tax savings on amortization} &= \$60,000 \times 14.5\% \\ &= \mathbf{\$8,700}\end{aligned}$$

**2-34. R.E. Forms Ltd.**

Alberta	Net income	\$75,000
	Taxes @ 14%	<u>10,500</u>
	Income after taxes	<b><u>\$64,500</u></b>
Ontario	Net income	\$75,000
	Taxes @ 16.5%	<u>12,375</u>
	Income after taxes	<b><u>\$62,625</u></b>
	<b><u>(2013 rate changed to 15.5%)</u></b>	

2-35.

J.B. Wands

a. Investment ( <b>bonds</b> )	<b><u>\$14,000</u></b>	
Bond interest @ 6.0% x \$14,000 =		\$840.00
Marginal tax rate (Saskatchewan)	<b>35.00%</b>	
Deduct: Combined taxes payable 35% × \$840 =		<u>294.00</u>
After tax bond yield (return)		<u>\$546.00</u>
After tax yield = return / investment x 100%		
	= \$546.00 / \$14,000 × 100% = <b>3.90%</b>	

Investment ( <b>shares</b> )	<b><u>\$14,000</u></b>	
Share dividend @ 5.0% x \$14,000 =		\$700.00
Marginal tax rate (Saskatchewan)	<b>17.5%</b>	
Deduct: Combined taxes payable 17.5% × \$700 =		<u>122.50</u>
After tax dividend yield (return)		<u>\$577.50</u>
After tax yield = return / investment x 100%		
	= \$577.50 / \$14,000 × 100% = <b>4.125%</b>	

The dividend provides a slightly better after tax yield (return).

- b. Bond interest is a fixed payment. Share dividends may not be paid and shares are subject to capital gains and losses. This makes the shares riskier. The result illustrates the “risk – return tradeoff”.

2-36.

**Billie Fruit****A. Top bracket (Investment of \$20,000)****Share dividend** @ 7.0% x \$20,000 = \$1,400.00Marginal tax rate (Yukon) \$1,400 x **17.30%**Deduct: Combined taxes payable 242.20After tax dividend yield (return) \$1,157.80

After tax yield = return / investment x 100%

$$= \boxed{\text{Better: } \$1,157.80 / \$20,000 \times 100\% = \mathbf{5.79\%}}$$

**Capital gain** @ 7.0% x \$20,000 = \$1,400.00Marginal tax rate (Yukon) \$1,400 x **21.20%**Deduct: Combined taxes payable 296.80After tax bond yield (return) \$1,103.20

After tax yield = return / investment x 100%

$$\boxed{\$1,103.20 / \$20,000 \times 100\% = \mathbf{5.52\%}}$$

**B. Middle bracket (\$35,000 to \$55,280)****Share dividend** @ 7.0% \$1,400.00Marginal tax rate (Yukon) **4.4%**Combined taxes payable (4.4 x \$1,400) 61.60

After tax dividend yield (return) \$1,338.40

After tax yield

$$\boxed{\text{Better: } \$1,338.40 / \$20,000 \times 100\% = \mathbf{6.69\%}}$$

**Capital gain** @ 7.0% \$1,400.00Marginal tax rate (Yukon) **14.40%**Combined taxes payable 201.60

After tax yield (return) \$1,198.40

After tax yield

$$\boxed{\$1,198.40 / \$20,000 \times 100\% = \mathbf{5.99\%}}$$

**2-37.**

### **Jasper Corporation**

Yield is 7%

On each \$100 investment

Interest paid to bondholder.....	<u>\$7.00</u>
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Co.'s Tax savings @ 40% .....	2.80
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Combined bondholder tax payable @ 39% .....	- <u>2.73</u>
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Net loss to government (\$2.80 - \$2.73)	<b>\$0.07</b>
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# Review of Accounting

### Author's Overview

This chapter, either used in whole or in part, can prove invaluable to the instructor and the student. Though it is assumed that every student taking the introductory course in managerial finance has had course work in accounting, many students are in need of a review. By explicitly covering this review material early in the course, the student is able to grasp later material more easily and the instructor does not have to continually close the 'accounting gaps' during the course. The instructor must, of course, decide whether to lecture on this material or merely assign it as reading. Some may choose to forgo it altogether if students have a good understanding of accounting.

It is suggested that emphasis be placed on the statement of cash flows, amortization and cash flow, and income tax considerations. We have also added IFRS and ASPE references for readers to consider in analyzing financial statements and the potential effect on decision making if differences are not considered.

### Learning Objectives

1. Demonstrate a reasonable ability to prepare the four basic financial statements.
2. Examine the limitations of the income statement as a measure of a firm's profitability.
3. Examine the limitations of the balance sheet as a measure of a firm's financial position.
4. Explain the importance of cash flows as identified in the statement of cash flows.
5. Explain and apply the effects of IFRS (International Financial Reporting Standards) on financial analysis.
6. Outline the impact of corporate tax considerations on after tax cash flow.
7. Identify the different forms of investment income and the different taxes payable on this income.
8. Explain the concept of tax savings for companies.



## Chapter 2

### Annotated Outline and Strategy

#### I. Financial Statements

##### A. The Income Statement

PPT 8 of 45	Kramer Corporation-Income Statement (Table 2-1)
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1. The income statement begins with the aggregate amount of sales (revenues) that are generated within a specific period of time.
2. The various expenses that occur in generating the sales are subtracted in stair-step format to arrive at the net income for the defined period.
3. The separation of the expense categories such as cost of goods sold, selling and administrative expenses, amortization, interest and taxes enables the management to assess the relative importance and appropriateness of the expenditures in producing each level of sales.
4. The 'bottom line' value, net income, is the aggregate amount available to the owners.
5. Valuation from the Income Statement:
  - a. The EPS is a measurement of the return available to providers of equity capital to the firm. The return to the providers of debt capital, interest, appears earlier in the income statement as a tax-deductible expense.

$$\text{Earnings per share (eps)} = \frac{\text{Earnings available to common shareholders}}{\text{Number of shares outstanding}} \quad (2-1; \text{page 31})$$

- b. Shareholders are interested in the percentage of earnings paid as dividends.

$$\text{Payout ratio} = \frac{\text{Dividend per share}}{\text{Earnings per share}} \quad (2-2; \text{page 31})$$

<b><i>Perspective 2-1: A discussion of P/E ratios can benefit the student. While a number of items in this chapter represent a review of accounting, P/E ratios often provide a new concept. The students tend to respond enthusiastically to stock market considerations in valuation. They can get a feel for P/E ratios and how they change over time in Table 2-3.</i></b>
--

## Chapter 2

- c. The earnings per share may be converted to a measure of current value through application of the price/earnings (P/E) ratio. The P/E ratio is best used as a relative measure of value because the numerator, price, is based on the future and the denominator, earnings, is a current measure.

$$\text{P/E ratio} = \frac{\text{Market per share}}{\text{Earnings per share}} \quad (2 - 3; \text{page } 31)$$

PPT 14 of 45	P/E ratios for selected companies (Table 2-3)
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- d. Part of the investor's return comes as dividends. This is related to the value of the investment.

$$\text{Dividend yield} = \frac{\text{Dividends per share}}{\text{Market share price}} \quad (2 - 4; \text{page } 31)$$

6. The income statement reflects only income occurring to the individual or business firm from verifiable transactions as opposed to the economist's definition of income, which reflects changes in real worth.
7. Income does not necessarily indicate cash available to shareholders. Accounting methods and policies allow for some flexibility in reporting income

### **Finance in Action: Apparently Earnings are Flexible**

There has been increasing concern about manipulation of reported earnings. Several theories for this practice are identified. [www.osc.gov.on.ca](http://www.osc.gov.on.ca)

#### **B. Balance Sheet**

1. Whereas the income statement provides a summary of financial transactions for a period of time, the balance sheet portrays the cumulative results of transactions at a point in time. The balance sheet may present the position of the firm as a result of transactions for six months, one year, twenty-five years, or other periods.
2. The balance sheet is divided into two broad categories. The assets employed in the operations of the firm compose one category while the other, liabilities and net worth, is composed of the sources of financing for the employed assets.

PPT 20 & 21 of 45	Kramer Corporation – Balance Sheet (Table 2-4A), ASPE format for private companies. PPT 22 & 23 of 45 (Table 2-4B), IFRS format for public companies.
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## Chapter 2

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3. Within the asset category, the assets are listed in their order of liquidity (ASPE) but reverse order, non-current listed first, for public companies (IFRS).
  - a. Cash (including demand deposits)
  - b. Marketable securities: investments of temporarily excess cash in highly liquid securities
  - c. Accounts receivable
  - d. Inventory
  - e. Prepaid expenses: future expense items that have already been paid
  - f. Investments: investments in securities and other assets for longer than one operating cycle
  - g. Plant and equipment adjusted for accumulated amortization
4. The various sources of financing of a firm are listed in their order of maturity (ASPE) but in reverse order for public companies (IFRS). Those sources that mature earliest, current liabilities, are listed first. The more permanent debt and equity sources follow:
  - a. Accounts payable
  - b. Notes payable
  - c. Accrued expenses: an obligation to pay is incurred; payment not yet made
  - d. Long-term debt: all or a majority of the principal will be paid beyond the current period
  - e. Preferred stock
  - f. Common stock accounts:
    - (1) Common stock (Contributed surplus; sometimes)
    - (2) Retained earnings
5. Confusing balance-sheet-related terms
  - a. Retained earnings: All of the assets of a firm are listed on the asset side of the balance sheet, yet many individuals envision a pile of money when the term retained earnings is used. Retained earnings is simply a cumulative total of the earnings of the firm, less dividends, since its incorporation until the date of the balance sheet that have not been paid to the owners. Earnings that are retained (cash) are used to purchase assets, pay liabilities, general expansion, etc. Regardless, there is no money available from a 'container' labeled retained earnings.
  - b. Net worth or book value of the firm is composed of the various common equity accounts and represents the net contributions of the owners to the business.
6. Valuation from the balance sheet:

## Chapter 2

- a. Book value is a historical value and does not necessarily coincide with the market value of the shareholders equity.

$$\frac{\text{Market value}}{\text{Book value}} = \frac{\text{MV}}{\text{BV}} = \frac{\text{Market value per share}}{\text{Book value per share}} \quad (2 - 5; \text{page } 32)$$

**Perspective 2-2:** *This is a good point in the discussion to illustrate the substantial differences that may exist between market definitions of value and accounting definitions. Table 2-5 may be used to provide a strong illustration of this point.*

PPT 25 of 45      Comparison of market value to book value per share (Table 2-5)

7.      Limitation of the balance sheet: Values are recorded at cost; replacement cost of some assets, particularly plant and equipment may greatly exceed their recorded value. Public companies (IFRS) updates yearly to market values.

### Finance in Action: Meeting the targets?

The pressure on firms to meet performance targets is examined.

#### C.      Statement of cash flows

1.      The statement of cash flows reports changes in cash and cash equivalents.
2.      International standardization of financial statements is driven by the International Accounting Standards Board ([www.iasb.org](http://www.iasb.org) )
3.      The statement emphasizes the critical nature of cash flow to the operations of the firm.
4.      The three primary sections of the statement are:
  - a.      cash flows from operating activities.
  - b.      cash flows from investing activities.
  - c.      cash flows from financing activities.

PPT 30 of 45      Illustration of concepts behind statement of cash flows (Figure 2-1)

5.      Income from operations may be translated from an accrual basis to a cash basis in two ways to obtain cash flow from operations.

## Chapter 2

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- a. Direct method: each and every item on the income statement is adjusted from accrual accounting to cash accounting. Sales on the accrual basis must be converted to a cash basis.
- b. Indirect method: a less tedious process than the direct method is usually preferred, particularly by larger firms. Net income is used as the starting point and adjustments are made to convert net income to cash flows from operations. Beginning with net income,
  - i. Add amortization for the current period, decreases in individual current asset accounts (other than cash) and increases in current liabilities;
  - ii. Subtract increases in current asset accounts (other than cash) and decreases in current liabilities.

**Perspective 2-3:** *To effectively illustrate the steps necessary for computing cash flow from operations, the instructor may wish to refer to Figure 2-2. Also, the actual numerical material can be found in Table 2-1 (an earlier referenced transparency related to the income statement) and Table 2-6 (Comparative Balance Sheets) and Table 2-7 (cash flows from operating activities).*

PPT 32 of 45	Steps in computing net cash flows provided by operating activities using the indirect method (Figure 2-2)
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PPT 33 & 34 of 45	Kramer Corporation-Comparative Balance Sheets (Table 2-6)
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PPT 35 of 45	Cash flows from operating activities (Table 2-7)
--------------	--

- 6. Cash flow from investing is found by summing the changes of investment in securities and plant and equipment. Increases are uses of funds and decreases are sources of funds.
- 7. Cash flow from financing activities is found by summing the sale or retirement of corporate securities and dividends. The sale of securities is a source of funds and the retirement of securities and payment of dividends are uses of funds.
- 8. Cash flows from operations, cash flows from investing, and cash flows from financing are combined to arrive at the statement of cash flows. The net increase or decrease shown in the statement of cash flows will be equal to the change in the cash balance on the balance sheet.

## Chapter 2

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9. In analyzing cash flow, one is examining the sources and uses of funds to evaluate the firm's solvency, liquidity and financial flexibility.

**Perspective 2-4:** *The three sections of the statements are brought together in Table 2-10. The instructor may wish to highlight in the example how cash flows from operating activities are funding investing and financing activities.*

PPT 38 & 39 of 45    Kramer Corporation – Statement of cash flows (Table 2-10)

**Finance in Action: Earnings and Cash Flow: The Difference at Teck**  
Financial statements provide the numbers over several years to illustrate the differences amongst cash flow, earnings, and capital expenditure.    [www.teck.com](http://www.teck.com)

**Perspective 2-5:** *To illustrate how the initial purchase of an asset and the subsequent write-off affects cash flow, the instructor may wish to refer to Table 2-11.*

PPT 40 & 41 of 45    Comparison of accounting and cash flows (Table 2-11)

### II.    Amortization and Funds Flow

- A.    Amortization is an attempt to allocate an initial asset cost over its life.
- B.    Amortization is an accounting entry and does not involve the movement of funds.
- C.    As indicated in the statement of cash flows, amortization is added back to net income to arrive at cash flow.

### III.    Free cash flow.

## Chapter 2

- A. Free cash flow is equal to cash flow from operating activities:  
Minus: Capital expenditures required to maintain the productive capacity of the firm.  
Minus: Dividends
- B. The amount of free cash flow is often available for special financing activities such as leveraged buy-outs.

### IV. Income Tax Considerations

- A. Most financial decisions are influenced by federal and provincial income tax considerations. **After tax yield** and **marginal tax rates** are important decision criterion.
  - 1. Personal taxes at varying rates apply to earnings of proprietors, partners and individuals. Investment income is taxed differently as interest, dividends, or capital gains.
  - 2. Corporate income is taxed at two levels-at the corporate level and at the personal level when received as dividends or as capital gain. Provincial tax rates also apply.
- B. The after tax cost of a tax-deductible business expense is equal to the  $(\text{expense}) \times (1 - \text{tax rate})$ . Capital cost allowance (CCA) creates significant tax savings.
- C. Although amortization is a noncash expense, it does affect cash flow by reducing

#### Finance in Action: Tax Rules

Capital decisions are influenced by changes in tax laws, particularly when compared to other countries. Consideration is given to the tax driven Income Trusts. [www.fin.gc.ca](http://www.fin.gc.ca)

taxes. Tax reduction in cash outflow for taxes resulting from amortization charges may be computed by multiplying the  $(\text{amortization expense}) \times (\text{tax rate})$ .

### Summary Listing of Suggested PowerPoint Slides

PPT 8 of 45	Kramer Corporation-Income Statement (Table 2-1)
PPT 14 of 45	P/E ratios for selected companies (Table 2-3)
PPT 20 & 21 of 45	Kramer Corporation-Balance Sheet (Table 2-4)
PPT 25 of 45	Comparison of market value to book value per share (Table 2-5)
PPT 30 of 45	Illustration of concepts behind statement of cash flows (Figure 2-1)
PPT 32 of 45	Steps in computing net cash flows provided by operating activities using the indirect method (Figure 2-2)
PPT 33 & 34 of 45	Kramer Corporation-Comparative Balance Sheets (Table 2-6)

## Chapter 2

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PPT 35 of 45	Cash flows from operating activities (Table 2-7)
PPT 38 & 39 of 45	Kramer Corporation: Statement of Cash Flows (Table 2-10)
PPT 40 & 41 of 45	Comparison of accounting and cash flows (Table 2-11)

### **PowerPoint Presentation**

The Chapter 2 PowerPoint Presentation, which covers the same essential points as the annotated outline, consists of 46 frames.



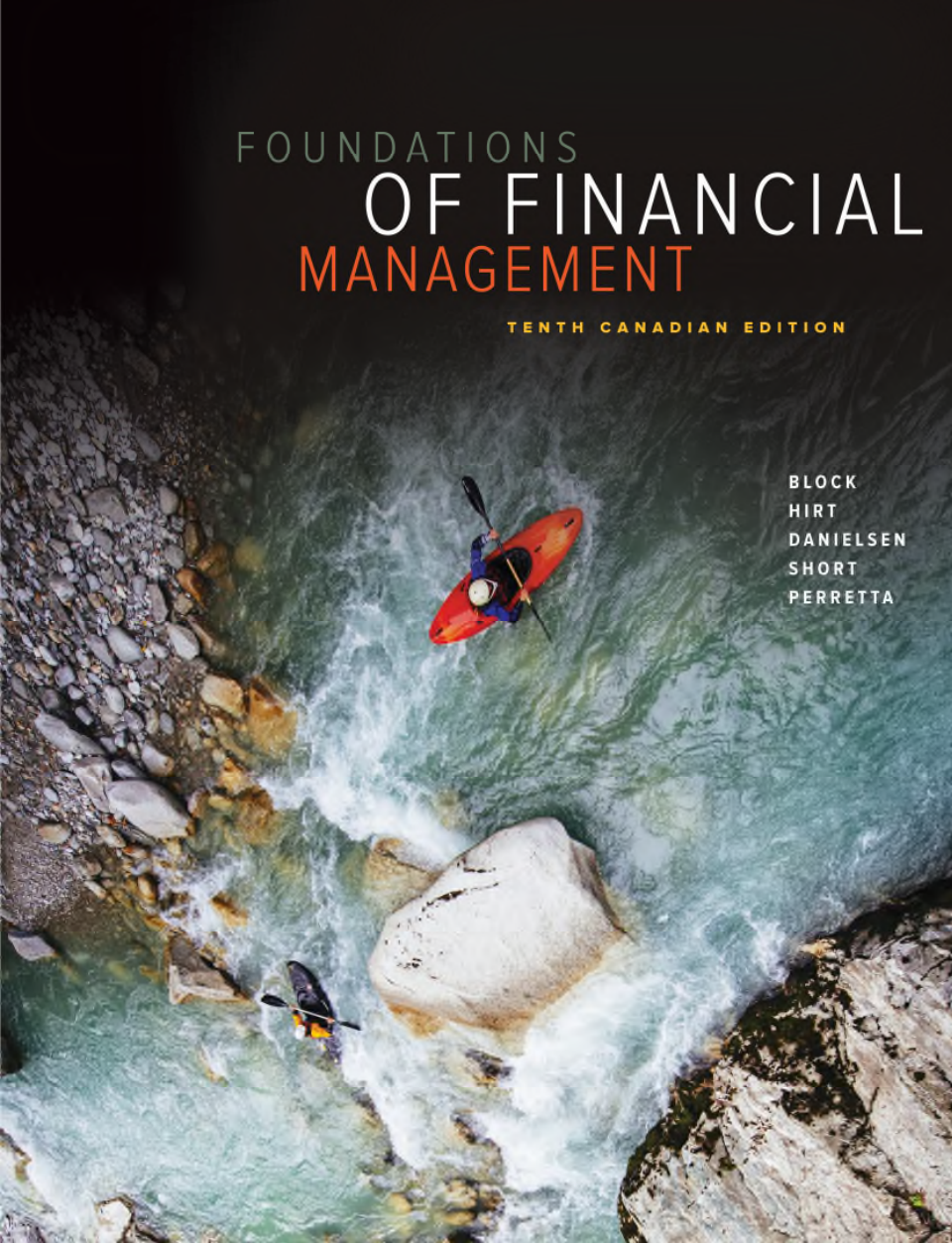
FOUNDATIONS  
OF FINANCIAL  
MANAGEMENT

TENTH CANADIAN EDITION

BLOCK  
HIRT  
DANIELSEN  
SHORT  
PERRETTA

# CHAPTER 2

## REVIEW OF ACCOUNTING



**PowerPoint Presentation Prepared by Michel Paquet, SAIT Polytechnic**



# Chapter 2 - Outline

- Accounting and Finance
- Income Statement
- Income and Value
- Balance Sheet (with IFRS impact)
- Income and Cash Flow
- Statement of Cash Flows
- Free Cash Flow
- Tax and Financial Decision
- Summary and Conclusions



# Learning Objectives

1. Prepare and analyze the four basic financial statements. (LO1)
2. Examine the limitations of the Income Statement as a measure of a firm's profitability. (LO2)
3. Examine the limitations of the Balance Sheet as a measure of a firm's financial position. (LO3)
4. Explain the importance of cash flows as identified in the statement of cash flows. (LO4)



# Learning Objectives

5. Explain and apply the effects of IFRS (International Financial Reporting Standards) on financial analysis. (LO5)
6. Outline the effect of corporate tax considerations on after tax cash flow. (LO6)
7. Identify the different forms of investment income and the effects on investors' taxes payable. (LO7)
8. Explain the concept of tax savings for companies. (LO8)



# Accounting and Finance

- Finance is about making decisions to produce value
- It is important to understand a firm's past and present financial position
- Accounting provides such information
- Information is organized into 4 financial statements:
  - Income Statement
  - Statement of Retained Earnings
  - Balance Sheet
  - Statement of Cash Flows



# The Income Statement

	Revenues
Less	<u>Expenses</u>
Equals:	Net Income

- **An Income Statement measures profitability for a time period (e.g. 1 year)**
- **Revenues from customers for services or merchandise**
- **Expenses from vendors for merchandise, services or supplies**
- **Can be prepared in steps**



# Classifications on the Income Statement

**Sales**

**less Cost of goods sold**

**Step 1** **= Gross profit**

**– less Operating expenses**

**Step 2** **= Operating profit**

**– less Interest expense**

**Step 3** **= Earnings before taxes**

**– less Income taxes**

**Step 4** **= Earnings after taxes**



**Table 2-1**  
**Income Statement**

**KRAMER CORPORATION**  
**Income Statement**  
**For the Year Ended December 31, 2014**

1. Sales	\$2,000,000
2. Cost of goods sold	1,500,000
3. Gross profit	500,000
4. Selling and administrative expenses	220,000
5. Amortization expense	50,000
6. Operating profit (EBIT)*	230,000
7. Interest expense	\$20,000
8. Earnings before taxes (EBT)	\$ 210,000
9. Taxes	99,500
10. Earnings after taxes	<u>\$110,500</u>
<b>Earnings per Share Calculations</b>	
EAT – Preferred shares dividends (from Retained earnings)	10,500
= Earnings available to common shareholders	<u>100,000</u>
Divided by Common shares outstanding	100,000
= Earnings per share	\$ 1.00



# Return on Capital

- Creditors (Bonds, etc.)
  - \$20,000 in interest
- Preferred Shareholders:
  - \$10,500 in dividends
- Common Shareholders:
  - \$100,000 of earnings available



## Table 2-2

# Statement of Retained Earnings

### Statement of Retained Earnings For the Year Ended December 31, 2014

Retained earnings, balance, January 1, 2015	\$250,000
Add: Earnings available to common shareholders	100,000
Deduct: Cash dividends declared in 2015	<u>50,000</u>
Retained earnings, balance, December 31, 2015	\$300,000

**Note:** “Prior Period Adjustments” for errors of past years may be added or subtracted in the Statement of Retained Earnings



# Valuation Basics from the Income Statement

Shareholders claim on earnings is a fundamental measure of value

**Earnings per share (e.p.s.) =**

**Earnings available to common shareholders**  
**Number of common shares outstanding**

$$\text{e.p.s.} = \frac{\$100,000}{100,000 \text{ shares}} = \$1$$



# Valuation Basics from the Income Statement

What percentage of earnings is paid out immediately in dividends

$$\text{Payout ratio} = \frac{\text{Dividends per share}}{\text{Earnings per share}}$$

$$\text{Payout ratio} = \frac{\$0.50}{\$1} = 0.50 \text{ or } 50\%$$



# Valuation Basics from the Income Statement

Shareholders' reliance on earnings will influence the price they are prepared to pay for shares of the firm

$$\text{P/E ratio} = \frac{\text{Market share price}}{\text{Earnings per share}}$$

$$\text{P/E ratio} = \frac{\$12}{\$1} = 12$$



## Table 2-3

### Price-earnings ratios for selected companies

Corporation	Industry	P/E Ratio			
		1992	2001	2008	2014
Ford Motor Company	Auto	n.a	n.a	16.1	8.8
BCE (BCE)	Telecommunications	11.2	24.8	7.2	17.7
Bank of Montreal (BMO)	Banking	8.8	11.0	11.2	11.3
Loblaw (L)	Grocery chain	18.5	27.8	25.1	20.4
Molson Coors (TAP.A)	Brewery	13.5	21.3	17.7	14.0
Open Text (OTC)	Tech. software	n.a.	43.5	50.0	16.1
EnCana (ECA)	Petroleum	143.4	7.0	13.6	20.0
TSX Composite *	Index	110.2	-81.9	17.7	19.1

\* No P/E ratios are reported on negative earnings which would result in a negative stock price. A general average for P/E ratios is about 10 times. The TSX Composite Index is the exception due to huge losses at Nortel and JDS



# Valuation Basics from the Income Statement

What percentage of earnings is paid out immediately in dividends

$$\text{Dividend yield} = \frac{\text{Dividends per share}}{\text{Market share price}}$$

$$\text{Dividend yield} = \frac{\$0.50}{\$12.00} = 0.0417 \text{ or } 4.17\%$$



# Limitations of the Income Statement

- Income statement records *past* events, which are irrelevant for valuation purposes
- Accountants focus on income while financial managers/analysts are interested in value
- Accountants have some flexibility in reporting transactions and resultant income



# Balance Sheet

**The Balance Sheet (statement of financial position) is a “snap-shot picture” that indicates the firm’s:**

- **Holdings (what the firm owns)**
- **Obligations (financing as liabilities or equity[ownership interest])**
- **Measure of its value at a point in time (cost basis compared to various IFRS valuation methods)**



# Classifications on the Balance Sheet

**Assets: what a business owns**

## **Current Assets**

- e.g. Accounts receivable, Inventory
- Will be sold or used up within 1 year

## **Capital Assets**

- e.g. Building, Equipment

**Liabilities: what a business owes**

## **Current Liabilities**

- e.g. Accounts payable
- Due within 1 year

## **Long-term Liabilities**

- Due some time after 1 year

**Equity: what the owner(s) have invested in the business**

## **Shareholders' Equity**

- Capital stock
- Retained Earnings



# Effects of IFRS on Financial Analysis

- **Most countries, including Canada have accepted the International Financial Reporting Standards (IFRS)**
- **Effective in 2011, public companies must present their annual financial statements applying the new IFRS**
- **It makes the financial statements completed under the IFRS comparable to other companies worldwide using similar IFRS standards**



# Effects of IFRS on Financial Analysis

- Selected Financial topics affected by IFRS
  - Values and format of the financial statements
  - Ratio analysis
  - Proforma (forecasts) financial statements
  - Working Capital analysis
  - Valuation of securities
  - Determination of Cost of Capital
  - Capital Budgeting
  - Short and long term financing
  - Dividend policy
  - International Finance



# Valuation Basics from the Balance Sheet

- One number related to a firm's value on the balance sheet is net worth or book value, which is defined as:
  - Shareholders' Equity minus Preferred Stock
- It represents common shareholders' original investment plus all earnings reinvested in the firm so far.
- Analysts often calculate the relationship between market value per share and historical book value per share

$$\frac{\text{Market Value}}{\text{Book Value}} = \frac{MV}{BV} = \frac{\text{Market Value per share}}{\text{Book Value per share}}$$



**Table 2-4A Balance sheet (private company with ASPE)**

<b>KRAMER CORPORATION</b> <b>Balance Sheet</b> <b>December 31, 2014</b>		
<b>Assets</b>		
Current assets:		
Cash		\$ 40,000
Marketable securities		10,000
Accounts receivable	\$220,000	
Less: Allowance for bad debts	20,000	200,000
Inventory		180,000
Prepaid expenses		20,000
Total current assets		450,000
Other assets:		
Investments		50,000
Capital assets:		
Plant and equipment, original cost	\$1,100,000	
Less: Accumulated amortization	600,000	
Net plant and equipment		500,000
Total assets		<u>\$1,000,000</u>



## Table 2-4A Balance sheet (private company with ASPE)

<b>KRAMER CORPORATION</b> <b>Balance Sheet</b> <b>December 31, 2014</b>	
<b>Liabilities and Shareholders' Equity</b>	
<b>Current liabilities</b>	
Account payable	\$ 80,000
Notes payable (bank indebtedness)	100,000
Accrued expenses	30,000
Total liabilities	210,000
<b>Long-term liabilities</b>	
Bonds payable, 2020	90,000
Total liabilities	300,000
<b>Shareholders' equity</b>	
Preferred stock, 500 shares	50,000
Common stock, 100,000 shares	350,000
Retained earnings	300,000
Total shareholders' equity	700,000
Total liabilities and shareholders' equity	<u>\$ 1,000,000</u>

**Note:** IFRS values and format would be significantly different as shown below.



**Table 2-4B Balance sheet (public company with IFRS)**

<b>KRAMER CORPORATION</b> <b>Balance Sheet</b> <b>December 31, 2014</b>		
<b>Assets</b>		
Capital assets:		
Plant and equipment, appraised values	\$2,100,000	
Less: Accumulated amortization	<u>600,000</u>	<u>\$1,500,000</u>
Current assets:		
Prepaid expenses		20,000
Inventory		180,000
Marketable securities		10,000
Accounts receivable	\$220,000	
Less: Allowance for bad debts	<u>20,000</u>	<u>200,000</u>
Cash		<u>40,000</u>
Total current assets		<u>450,000</u>
Other assets:		<u>50,000</u>
Total assets		<u><u>\$2,000,000</u></u>



## Table 2-4B Balance sheet (public company with IFRS)

KRAMER CORPORATION		
Balance Sheet		
December 31, 2014		
Liabilities and Shareholders' Equity		
Shareholders' equity:		
Preferred stock, 500 shares	\$ 50,000	
Common stock, 100,000 shares	350,000	
Retained earnings	300,000	
Unrealized gain	1,000,000	
Total shareholders' equity		1,700,000
Long-term liabilities		
Bonds payable		90,000
Notes payable, short term	100,000	
Accrued expenses	30,000	
Accounts payable	80,000	
Total current liabilities		210,000
Total liabilities and shareholders' equity		<u>\$ 2,000,000</u>

**Note:** This IFRS balance sheet for Kramer Corporation is only a basic example. Actual IFRS statements are more complex.



## Table 2-5

### Comparison of market value to book value per share, February 2014

Corporation	Market Value per Share	Book Value per Share	Ratio of Market Value to Book Value
Ford Motor Company	\$15.38	\$6.69	2.30
BCE (BCE)	35.08	21.43	1.64
Bank of Montreal (BMO)	59.23	32.38	1.83
Loblaw (L)	41.10	22.71	1.81
Molson Coors (TAP.A)	48.55	40.85	1.18
Open Text (OTC)	43.35	13.94	3.11
EnCana (ECA)	28.00	23.56	1.19

**Source:** Company financial reports, Toronto Stock Exchange website, [www.tsx.com](http://www.tsx.com)



# Limitations of the Balance Sheet

- **Values are stated on a historic or original cost basis for private companies but public companies must report IFRS at market values**
- **Accounting policies and methods used (ex: amortization, inventory valuation) will influence the recorded values**
- **Contingent liabilities are omitted from the balance sheet**



# Income and Cash Flow

- A profitable firm does not necessarily generate high cash flow probably because it sells on credit.
- **Accrual** accounting attempts to **match** revenues and expenses even if the related cash flows occur at quite different times.
- Financial managers are only concerned with **cash flow** because only cash can be spent.
- The statement of cash flows reports changes in cash and cash equivalents resulting from activities of the firm during a given period.



# The Statement of Cash Flows

**The Statement of Cash Flows measures the flow of cash into and out of a firm:**

**Cash Flows from operating activities +**

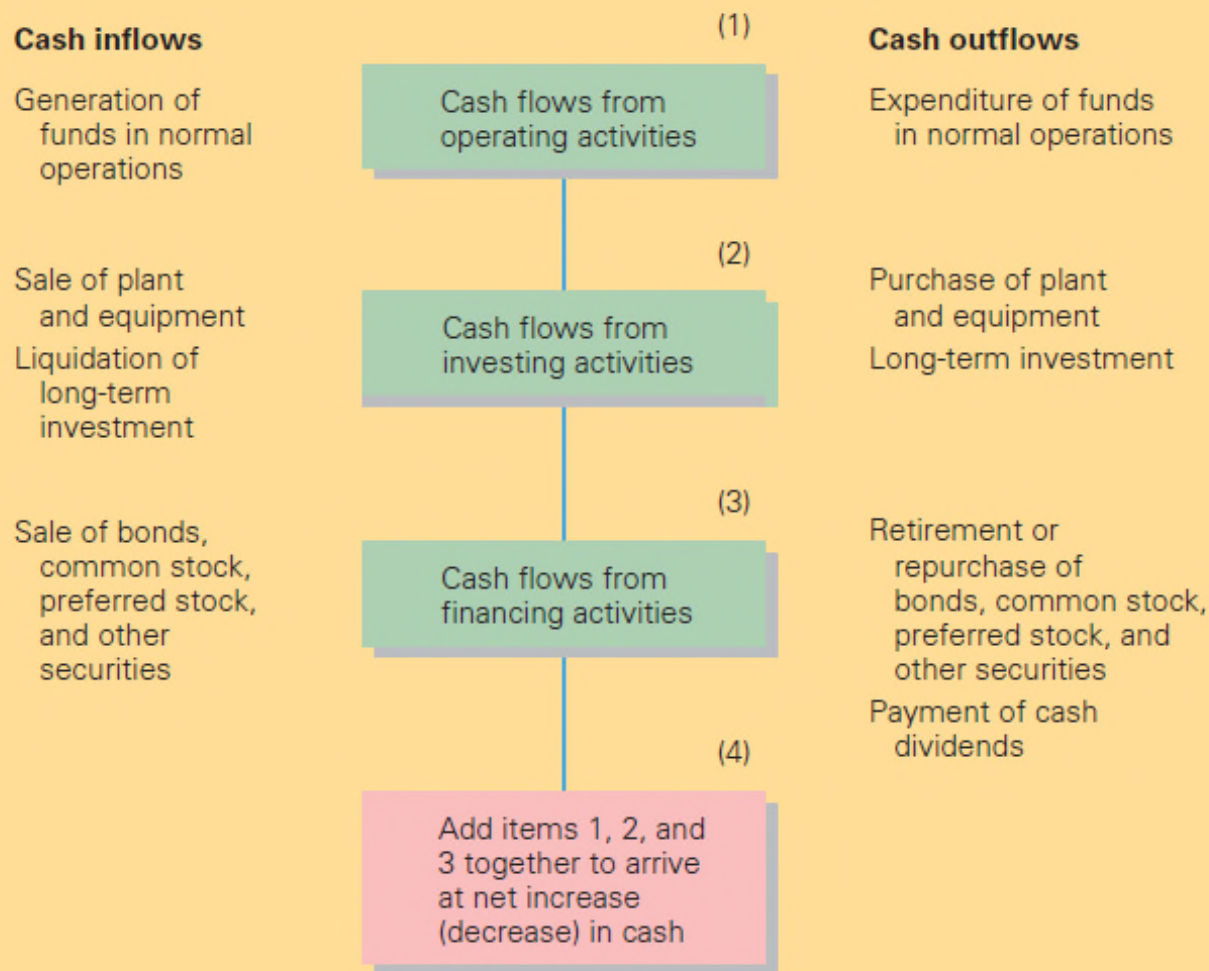
**Cash Flows from financing activities +**

**Cash Flows from investing activities =**

**Net increase (decrease) in cash**



## Figure 2-1 Illustration of concepts behind the statement of cash flows





# Sources (Uses) of Cash

**Operations:** cash paid and received from  
buying and selling of goods and services

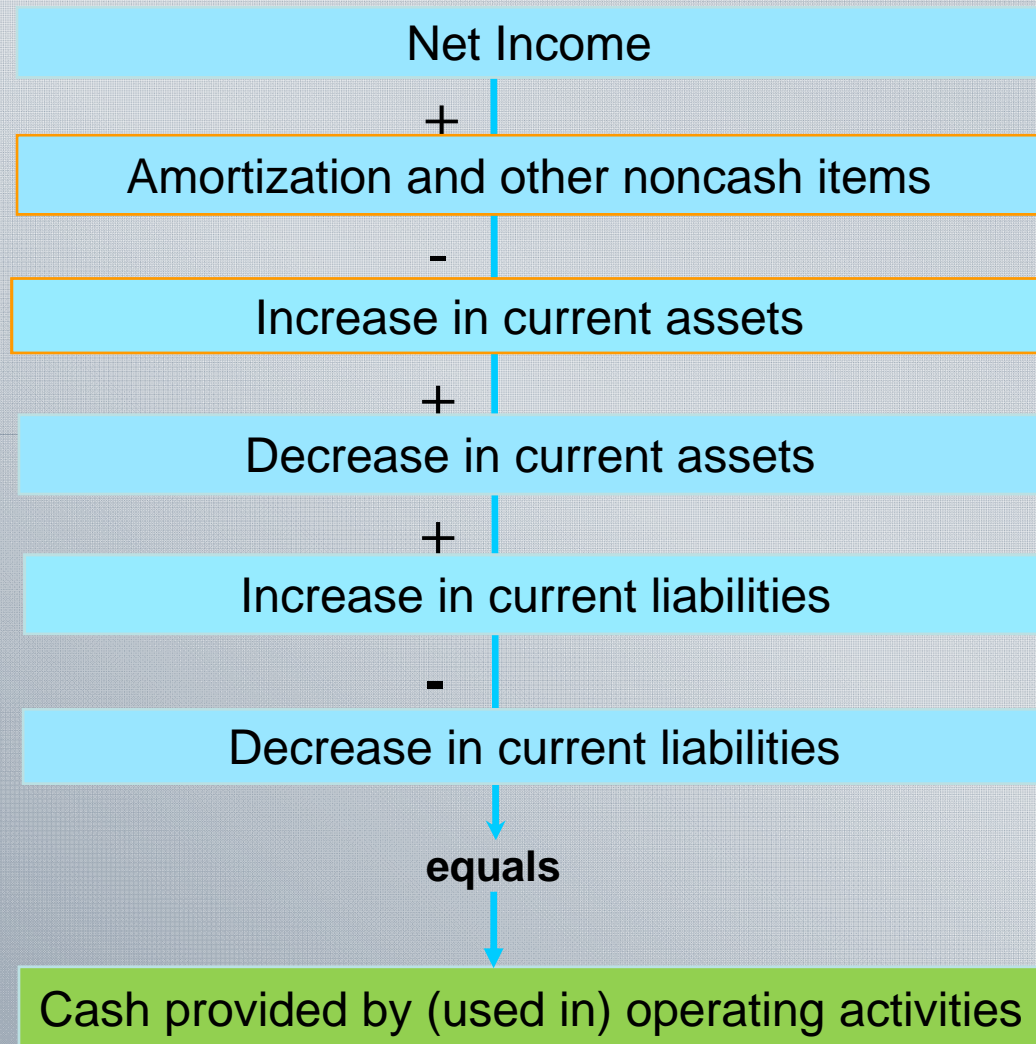
**Investments:** cash paid and received from  
investment activities (bonds, stocks, property,  
equipment)

**Financing:** cash paid and received from financing  
activities (dividends, borrowing or issuing stocks,  
repayment or issuing debt)



## Figure 2-2

### Steps in computing cash provided by operating activities using the indirect method





## Table 2-6a

### Comparative balance sheets (private company with ASPE)

KRAMER CORPORATION Balance Sheets		
	December 31	
	2014	2013
<b>Assets</b>		
Current assets:		
Cash	\$ 40,000	\$ 30,000
Marketable securities	10,000	10,000
Accounts receivable (net)	200,000	170,000
Inventory	180,000	160,000
Prepaid expenses	20,000	30,000
Total current assets	450,000	400,000
Investments (long-term)	50,000	20,000
Plant and equipment	1,100,000	1,000,000
Less: Accumulated amortization	600,000	550,000
Net plant and equipment	500,000	450,000
Total assets	<u>\$ 1,000,000</u>	<u>\$ 870,000</u>



## Table 2-6b

### Comparative balance sheets (private company with ASPE)

KRAMER CORPORATION Balance Sheets		
	December 31	
	2014	2013
<b>Liabilities and Shareholders' Equity</b>		
<b>Current liabilities:</b>		
Accounts payable	\$ 80,000	\$ 45,000
Notes payable	100,000	100,000
Accrued expenses	30,000	35,000
Total current liabilities	210,000	180,000
<b>Long-term liabilities:</b>		
Bonds payable, 2020	90,000	40,000
Total liabilities	300,000	220,000
<b>Shareholders' equity</b>		
Preferred stock	50,000	50,000
Common stock	350,000	350,000
Retained earnings	300,000	250,000
Total shareholders' equity	\$700,000	650,000
<b>Total Liabilities and shareholders' equity</b>	<u>\$1,000,000</u>	<u>\$ 870,000</u>



## Table 2-7

### Cash flows from operating activities

Operating Activities		
Net Income (earnings after taxes) (Table 2-1)	\$110,500	
Add items not requiring an outlay of cash:		
Amortization (Table 2-1)	50,000	50,000
Cash flow from operations		160,500
Changes in noncash working capital:		
Increase in accounts receivable (Table 2-6)	(30,000)	
Increase in inventory (Table 2-6)	(20,000)	
Decrease in prepaid expenses (Table 2-6)	10,000	
Increase in accounts payable (Table 2-6)	35,000	
Decrease in accrued expenses (Table 2-6)	(5,000)	
Net change in noncash working capital		(10,000)
Cash provided by operating activities		<u>\$150,500</u>



## Table 2-8

### Cash flows from investing activities

Investing Activities	
Increase in investments (long-term securities) (Table 2-6)	\$ 30,000
Increase in plant and equipment (Table 2-6)	(100,000)
Cash used in investing activities	(\$ 130, 000)



## Table 2-9

### Cash flows from financing activities

Financing Activities	
Increase in bonds payable (Table 2-6)	\$ 50,000
Preferred stock dividends paid (Table 2-1)	(10,500)
Common stock dividends paid (Table 2-2)	(50,000)
Cash used in financing activities	(\$ 10,500)



## Table 2-10a

### Statement of cash flows

#### KRAMER CORPORATION

##### Statement of cash flows

##### For the year Ended December, 2014

#### Operating Activities

Net Income (earnings after taxes)		\$ 110,500
Add items not requiring an outlay of cash:		
Amortization	50,000	50,000
Cash flow from operations		160,500
Changes in noncash working capital:		
Increase in accounts receivable	(30,000)	
Increase in inventory	(20,000)	
Decrease in prepaid expenses	10,000	
Increase in accounts payable	35,000	
Decrease in accrued liabilities	(5,000)	
Net change in noncash working capital		(10,000)
<b>Cash provided by (used in) operating activities</b>		<b>\$ 150,500</b>



## Table 2-10a

### Statement of cash flows

#### KRAMER CORPORATION

##### Statement of cash flows

##### For the year Ended December, 2014

<b>Investing Activities</b>		
Increase in investments (long-term securities)	(30,000)	
Increase in plant and equipment	(100,000)	
<b>Cash used in investing activities</b>		<b>(\$ 130,000)</b>
<b>Financing Activities</b>		
Increase in bonds payable	50,000	
Preferred stock dividends paid	(10,500)	
Common stock dividends paid	(50,000)	
<b>Cash used in financing activities</b>		<b>(\$ 10,500)</b>
<b>Net increase (decrease) in cash during the year*</b>		<b>\$ 10,000</b>
Cash, beginning of year*		30,000
<b>Cash, end of year*</b>		<b><u>\$ 40,000</u></b>

\*This would include cash equivalents if there were any



**Table 2-11a**

## **Comparison of accounting and cash flows**

	<b>Year 1</b>	
	<b>(1) Accounting</b>	<b>(2) Cash Flows</b>
Earnings before amortization and taxes (EBAT)	\$1,000	\$1,000
Amortization	100	100
Earnings before taxes (EBT)	900	900
Taxes	400	400
Earnings after taxes (EAT)	\$ 500	500
Purchase of equipment		-500
Amortization charged without cash outlay		+100
Cash flow		\$ 100



**Table 2-11b**

**Comparison of accounting and cash flows**

	Year 2	
	(1) Accounting	(2) Cash Flows
Earnings before amortization and taxes (EBAT)	\$1,000	\$1,000
Amortization	100	100
Earnings before taxes (EBT)	900	900
Taxes	400	400
Earnings after taxes (EAT)	\$ 500	500
Amortization charged without cash outlay		+100
Cash flow		\$ 600



# Free Cash Flow

- Free Cash Flow (FCF) can be calculated as

**Cash Flow from Operating Activities**

**Minus: Capital Expenditures**

**Minus: Dividends**

- FCF represents cash available for special financial activities:
  - leveraged buyouts
  - share buyback
  - mergers and acquisitions



# Tax and Financial Decisions

- **Income taxes affect financial decisions**
- **Corporate taxes vary by province, by type of business and by size of business**
- **Cash flows after-tax are most relevant for decision-making**
- **After-tax investment income paid to shareholders or other individuals varies depending upon the form of the income**
- **Expenses deductible from taxable income provide a *tax shield* (tax savings)**



# Cost of a Tax-Deductible Expense

	Corporation A	Corporation B
Earnings before interest and taxes	\$400,000	\$400,000
Interest	100,000	0
Earnings before taxes (taxable income)	300,000	400,000
Taxes (40%)	120,000	160,000
Earnings after taxes	<b>\$180,000</b>	<b>\$240,000</b>
Difference – Corporation B has \$60,000 higher earnings after tax		



# Amortization (Capital Cost Allowance) as a Tax Shield

	Corporation A	Corporation B
Earnings before CCA and Taxes	\$400,000	\$400,000
CCA	100,000	0
Earnings before taxes (taxable income)	300,000	400,000
Taxes (40%)	120,000	160,000
Earnings after taxes	\$180,000	\$240,000
+ Amortization deducted without cash outlay	100,000	0
Cash flow	<b>\$280,000</b>	<b>\$240,000</b>
Difference – Corporation A has \$40,000 higher cash flow		



# Summary and Conclusions

- Financial statements provide financial managers with information about the firm's profit, assets, liabilities, equity and cash flow.
- Financial managers should be aware of the limitations of financial statements.
- International Financial Reporting Standards most significant impact is on the format of the Balance Sheet, the valuation of assets and ratio analysis.
- Financial managers should focus on cash flow as only cash can be spent.
- The statement of cash flows gives a rough picture of operating cash flows and the nature of the firm's investment and financing activities.
- Tax affects individual and corporate decision making.