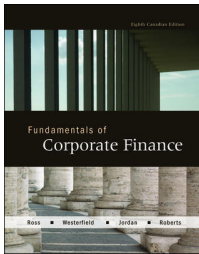



**Finance for Management and Organizational Studies**  
**MOS 2310**  
**Chapter 3**  
**Financial Statements**





Danny L. Morrison, M.B.A. CPA, CMA





**Income Statement**  
**DannyCo**  
**Income Statement**  
**For the Month Ended April 30, 2012**

Revenue:	
Service revenue	\$17,000
Expenses:	
Rent expense	\$2,400
Salary expense	2,200
Utilities expense	<u>800</u>
Total expenses	<u>5,400</u>
Net income	<u>\$11,600</u>



**Owner's Equity**  
**DannyCo**  
**Statement of Owner's Equity**  
**For the Month Ended April 30, 2012**

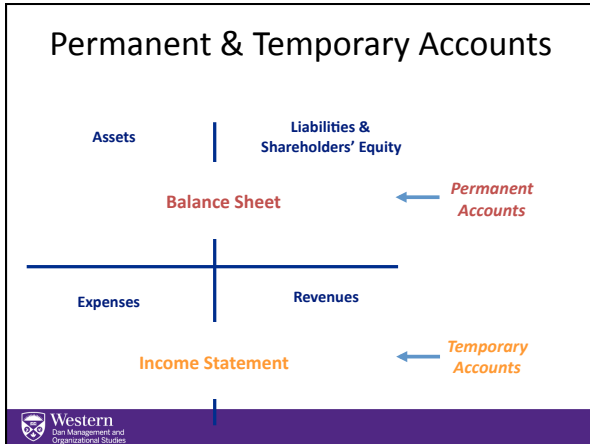
D. Morrison, Capital, April 1, 2005	\$ 0
Investment by owner	100,000
Net income for the month	11,600
Withdrawals by owner	<u>( 4,200)</u>
D. Morrison, Capital, April 30, 2005	<u>\$107,400</u>

**Statement of Financial Position (aka Balance Sheet)**  
**DannyCo**  
**Balance Sheet**  
**April 30, 2012**

<u>Assets</u>		<u>Liabilities</u>	
Cash	\$ 66,600	Accounts payable	\$ 200
Accounts receivable	4,000	<u>Owner's Equity</u>	
Office supplies	1,000	D. Morrison, Capital	<u>107,400</u>
Land	<u>36,000</u>	Total liabilities and	
Total assets	<u>\$107,600</u>	owner's equity	<u>\$107,600</u>

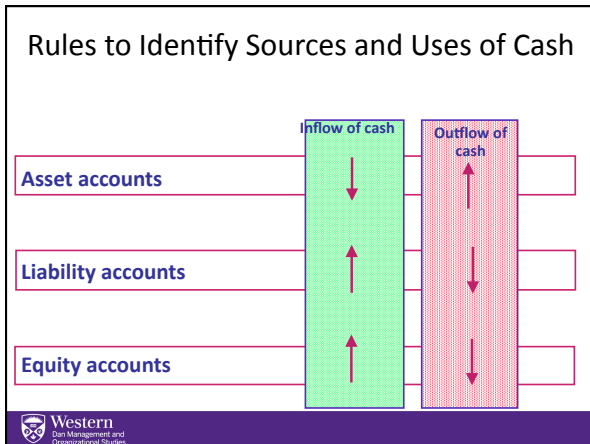





### EBITDA

Revenue	\$1,000,000	←	EBAE
Cost of goods sold	<u>600,000</u>	←	EBITDASA
Gross margin	400,000	←	EBITDA
S&A expenses	175,000	←	EBITDA
Amortization (depreciation)	<u>125,000</u>	←	EBITDA
Net income before interest	100,000	←	EBIT
Interest expense	<u>40,000</u>	←	EBIT
Net income before taxes	60,000	←	EBT
Income taxes	<u>20,000</u>	←	EBT
Net income (earnings)	\$30,000	←	EAT

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### Telling the "Cash Flow Story"

Focus on the four important numbers

- Cash from operations
- Cash from/used for financing
- Cash from/used for investing
- Net change in cash

- Round numbers off - ignore insignificant numbers
- Begin story with where the cash came from and then say where it went

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## McDonald's: Cash Flow Story

McDonald's	1997	1998	1999	2000
Cash from Operations	\$2,442	\$2,766	\$3,009	\$2,751
Cash for Financing	(214)	(860)	(627)	(537)
Cash for Investing	(2,217)	(1,948)	(2,262)	(2,212)
Net Change in Cash	\$12	(\$42)	\$120	\$2

## Ratio Analysis

**Purpose:** To determine the company's financial strengths and weaknesses. 1) To plan; 2) Puts raw data in perspective; 3) Explain the company's performance to stakeholders

**Measured by:** Comparing the calculated ratios using a cross sectional (comparison) and/or time series (trend) analysis...to consider all aspects of the firm's financial position

**Recognize:** "better than average" viewpoint can be misleading. Quite often a ratio value that is far better than the norm can indicate problems.

Uncovers symptoms of a problem...further analysis is required to find causes of the problem

## Liquidity

...is a measure of a company's ability to pay S-T debt as it comes due

**Measured by:** Net Working Capital, Current Ratio and Quick Ratio

**Recognize:** The funds required to repay current liabilities within a short time period will come from a company's three main current asset accounts: cash, accounts receivable and inventory.

The more predictable a firm's cash flows, the lower the acceptable current ratio.

## Activity Ratios

...is a measure of a company's effectiveness at managing current accounts and fixed assets (total assets)

**Measured by:** Inventory activity by average age of inventory and inventory turnover; accounts receivable by average collection period; and accounts payable by average payment period.

**Recognize:** Fixed and total asset turnovers measure the efficiency with which the firm uses its assets to generate sales.

## Leverage

...indicates the amount of borrowed money being used in an attempt to maximize shareholder wealth. Measures both the capitalization of the company and the ability to pay debts.

**Measured by:** Debt ratio; costly debt ratio; and the debt/equity ratio.

**Recognize:** The ability to pay fixed financial charges can be measured by two coverage ratios: times interest earned (TIE) and the fixed charge coverage ratio. Coverage ratios provide an indication of the profitability of the company.

The lever is debt financing.

## Profitability

...evaluate the firm's earnings with respect to a given level of sales, a certain level of assets, the owner's investment, or share value.

**Measured by:** Can be analyzed in various ways: ROS, ROA, ROE, ROI, EPS, P-E ratio.

**Recognize:** That the DuPont model integrates information from the income statement and balance sheet and is based on three variables: profit margin, total asset turnover, and the financial leverage multiplier.

### Table 3.8 – Common Financial Ratios

I. Short-Term Solvency or Liquidity Ratios	II. Long-Term Solvency or Financial Leverage Ratios
Current ratio = $\frac{\text{Current assets}}{\text{Current liabilities}}$	Total debt ratio = $\frac{\text{Total debt}}{\text{Total assets}}$
Quick ratio = $\frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}}$	Debt/equity ratio = $\frac{\text{Total debt}}{\text{Total equity}}$
Cash ratio = $\frac{\text{Cash}}{\text{Current liabilities}}$	Equity multiplier = $\frac{\text{Total assets}}{\text{Total equity}}$
Net working capital = $\frac{\text{Net working capital}}{\text{Total assets}}$	Long-term debt ratio = $\frac{\text{Long-term debt}}{\text{Long-term debt} + \text{Total equity}}$
Interval measure = $\frac{\text{Current assets}}{\text{Average daily operating costs}}$	Times interest earned = $\frac{\text{EBIT}}{\text{Interest}}$
	Cash coverage ratio = $\frac{\text{EBIT} + \text{Depreciation}}{\text{Interest}}$

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### Table 3.8 – Common Financial Ratios

III. Asset Utilization Turnover Ratios	IV. Profitability Ratios
Inventory turnover = $\frac{\text{Cost of goods sold}}{\text{Inventory}}$	Profit margin = $\frac{\text{Net income}}{\text{Sales}}$
Days' sales in inventory = $\frac{365 \text{ days}}{\text{Inventory turnover}}$	Return on assets (ROA) = $\frac{\text{Net income}}{\text{Total assets}}$
Receivables turnover = $\frac{\text{Sales}}{\text{Accounts receivable}}$	Return on equity (ROE) = $\frac{\text{Net income}}{\text{Total equity}}$
Days' sales in receivables = $\frac{365 \text{ days}}{\text{Receivables turnover}}$	ROE = $\frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$
NWC turnover = $\frac{\text{Sales}}{\text{NWC}}$	
Fixed asset turnover = $\frac{\text{Sales}}{\text{Net fixed assets}}$	<b>V. Market Value Ratios</b>
Total asset turnover = $\frac{\text{Sales}}{\text{Total assets}}$	Price-earning ratio = $\frac{\text{Price per share}}{\text{Earnings per share}}$
	Market-to-book ratio = $\frac{\text{Market value per share}}{\text{Book value per share}}$
	EV/EBITDA = $\frac{[\text{Market value of equity} + \text{Market value of interest-bearing debt} + \text{Minority interest} - \text{Cash (and cash equivalent)}]}{\text{EBITDA}}$

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To make ratios meaningful, you should ...

1. Look at trends
2. Compare your financial performance with other businesses and/or industry averages



### DannyCo. Ltd. Vertical Analysis

	2011		2010	
	\$	% of sales	\$	% of sales
Sales revenue	\$2,500,000	100.0	\$2,300,000	100.0
Cost of sales	<u>1,400,000</u>	<u>56.0</u>	<u>1,334,000</u>	<u>58.0</u>
Gross profit	1,100,000	44.0	966,000	42.0
Operating expenses				
Salaries	820,000	32.8	763,600	33.2
Lease payments	20,000	0.8	18,000	0.8
Amortization	50,000	2.0	30,000	1.3
Other expenses	<u>50,000</u>	<u>2.0</u>	<u>48,000</u>	<u>2.1</u>
Total operating expenses	<u>940,000</u>	<u>37.6</u>	<u>859,600</u>	<u>37.4</u>
Income before taxes	160,000	6.4	106,400	4.6
Income taxes	<u>80,000</u>	<u>3.2</u>	<u>53,200</u>	<u>2.3</u>
Net income	<u>\$ 80,000</u>	<u>3.2</u>	<u>\$ 53,200</u>	<u>2.3</u>

### DannyCo. Ltd. Horizontal Analysis

			Amount of change	% of change
	2011	2010		
Sales revenue	\$2,500,000	\$2,300,000	\$ 200,000	8.69
Cost of sales	<u>1,400,000</u>	<u>1,334,000</u>	<u>66,000</u>	<u>4.95</u>
Gross profit	1,100,000	966,000	134,000	13.87
Operating expenses				
Salaries	820,000	763,600	56,400	7.38
Lease payments	20,000	18,000	2,000	11.10
Amortization	50,000	30,000	20,000	66.67
Other expenses	<u>50,000</u>	<u>48,000</u>	<u>2,000</u>	<u>4.17</u>
Total operating expenses	<u>940,000</u>	<u>859,600</u>	<u>80,400</u>	<u>9.35</u>
Income before taxes	160,000	106,400	53,600	50.37
Income taxes	<u>80,000</u>	<u>53,200</u>	<u>26,800</u>	<u>50.37</u>
Net income	<u>\$ 80,000</u>	<u>\$ 53,200</u>	<u>\$ 26,800</u>	<u>50.37</u>

### External Financial Ratios

		DannyCo. Ltd.	External ratios
LIQUIDITY RATIOS	1. Current ratio (times)	2.00	1.50
	2. Quick or acid test ratio (times)	1.25	1.00
DEBT/ COVERAGE RATIOS	3. Debt to total assets (percent)	.67	.55
	4. Times-interest-earned (times)	3.10	5.00
	5. Fixed-charges coverage (times)	2.70	5.00
ASSET/ MANAGEMENT RATIOS	6. Average Collection period (days)	27.70	35.00
	7. Inventory turnover (times)	9.30	8.00
	8. Capital Assets turnover (times)	3.10	4.50
PROFITABILITY RATIOS	9. Total Assets turnover (times)	2.10	3.50
	10. Profit Margin on sales (percent)	6.20	5.50
	11. Return on total assets (percent)	6.70	5.50
	12. Return on equity (percent)	20.00	15.00

## Limitations of Financial Ratios

- They only give signals; they do not answer questions relating to why, what, or how
- When comparing ratios with other businesses, make sure that the closing dates of the financial statements are the same
- Make sure that the numbers used are similar
- The size of the business may make a difference
- The nature of the operations may also be different (new plant versus worn-out plant)

## Limitations of any analysis of accounting statements

- There may be little or no direct relationship to the firm's cash flow, especially in the short run
- Two identical firms may report substantially different accounting data by employing alternative GAAP treatments
- "Window dressing" may appear in accounting statements
- Often difficult to find comparable industry data for multidivisional firms; international operations—reporting problems

## Du Pont Model

...used to analyze the key measure of profitability from a shareholder's perspective

**Measured by:** Return on Equity (ROE) based on profit margin, total asset turnover, and the financial leverage multiplier.

**Recognize:** That the DuPont model integrates information from the income statement and the balance sheet, and helps visualize the critical building blocks that determine the company's ROE.

Even minor increases in the underlying ratios can lead to large increases in ROE.

See figure 3.1 on page 73

## Using the Du Pont Identity

$$\text{ROE} = \text{PM} * \text{TAT} * \text{EM}$$

- Profit margin is a measure of the firm's operating efficiency (how well does it control costs)
- Total asset turnover is a measure of the firm's asset use efficiency (how well does it manage its assets)
- Equity multiplier is a measure of the firm's financial leverage