



The Goal of a Corporation

*Chapter 2 – Financial Statements and Cash Flows***The Balance Sheet**

Assets			Liabilities & Equity		
Current assets	2007	2008	Current liabilities	2007	2008
Cash	\$126	\$135	Accounts payable	\$143	\$151
Accounts receivable	195	210	Notes payable	196	209
Inventory	227	249	Total	<u>\$339</u>	<u>\$360</u>
Total	<u>\$548</u>	<u>\$594</u>			
Fixed assets			Long-term liabilities		
Property, plant & equip.	\$1,975	\$2,524	Deferred taxes	\$68	\$138
Less accum depreciation	460	640	Long-term debt	397	422
Total	<u>\$1,515</u>	<u>\$1,884</u>	Total	<u>\$465</u>	<u>\$560</u>
			Stockholders equity		
			Common stock	\$50	\$53
			Capital surplus	436	487
			Accum. retained earnings	813	1,073
			Less treasury stock	40	55
			Total equity	<u>\$1,259</u>	<u>\$1,558</u>
Total assets	<u>\$2,063</u>	<u>\$2,478</u>	Total liabilities & equity	<u>\$2,063</u>	<u>\$2,478</u>

Net working capital (NWC) = Current assets – Current liabilities

Income Statement

Sales		\$5,730
Cost of goods sold		2,308
Expenses		1,847
Depreciation		180
EBIT		<u>\$1,395</u>
Interest expense		<u>40</u>
EBT		\$1,355
Taxes		542
Current	\$472	
Deferred	\$70	
Net income		<u><u>\$813</u></u>
Add. to retained earnings		\$260
Dividends		\$553

Depreciation tax shield = Depreciation(t)

Operating cash flow (OCF)

EBIT

+ Depreciation

– Current taxes

Cash Flow Identity

$$\text{CF flow from assets} = \text{CF flow to creditors} + \text{CF to stockholders}$$

where:

$$\text{CF from assets} = \text{OCF} - \text{Capital spending} - \Delta\text{NWC}$$
Capital spending

Acquisition of fixed assets

– Sale of fixed assets

Total

--OR--

Ending fixed assets

– Beginning fixed assets

+ Depreciation

Total

Change in NWC

Ending NWC

– Beginning NWC

Total

Cash flow to creditors

Interest
 Retirement of debt
 Debt service
 Proceeds of long-term debt sales
 Total

--OR--

Interest paid
 – Ending long-term debt
 + Beginning long-term debt _____

Cash flow to stockholders

Dividends
 Repurchase of stock _____
 Cash to stockholders
 Proceeds from new stock _____
 Total

Cash Flow Identity

CF flow from assets = CF flow to creditors + CF to stockholders
 OCF – Capital spending – Δ NWC = CF flow to creditors + CF to stockholders

Accounting Statement of Cash Flows**Operations**

Net income	\$813
Depreciation	180
Deferred taxes	70
Changes in assets and liabilities	
Accounts receivable	(15)
Inventories	(22)
Accounts payable	\$8
Total cash flow from operations	<u>\$1,034</u>

Investing activities

Acquisition of fixed assets	
Sales of fixed assets	
Total cash flow from investing	\$(549)

Financing activities

Retirement of long-term debt	
Proceeds from sale of long-term debt	
(Change in long-term debt)	\$25
Change in notes payable	13
Dividends	(553)
Repurchase of stock	(15)
Proceeds from sale of new stock	54
Total cash flow from financing activities	<u>\$(476)</u>
Change in cash (on balance sheet)	<u>\$9</u>

Chapter 3 – Financial Statement Analysis and Long-Term Financial Planning**Ratio Analysis**

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Peer Group Analysis

Time Trend Analysis

The DuPont Identity

$$\text{ROE} = \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Equity}}$$

Long-Term Financial Planning

Percentage of Sales Approach

		% of sales		% of sales	
Sales	\$89,500				
Other expenses	<u>62,650</u>	70.00%			
EBIT	\$26,850	30.00%			
Interest	<u>6,300</u>	7.04%			
Taxable income	\$20,550	22.96%			
Taxes (40%)	<u>8,220</u>	9.18%			
Net income	<u>\$12,330</u>	13.78%			
Dividends	\$4,932				
Add to RE	\$7,398				
Assets					
Current Assets			Current liabilities		
Cash	\$3,850	4.30%	Accounts payable	\$8,450	9.44%
Accounts rec.	4,600	5.14%	Notes payable	<u>3,980</u>	N/A
Inventory	<u>9,400</u>	10.50%	Total CL	\$12,430	
Total CA	\$17,850	19.94%			
			Long-term debt	\$42,500	N/A
Fixed assets			Shareholder equity		
Net PP&E	<u>\$94,380</u>	105.45%	Common stock	\$5,000	N/A
			Retained earnings	<u>52,300</u>	N/A
			Total equity	<u>\$57,300</u>	N/A
Total assets	<u>\$112,230</u>	125.40%	Total L&E	<u>\$112,230</u>	

Payout ratio = Dividends / Net income = $\$4,932 / \$12,330 = .40$

Retention or Plowback ratio = Add. to RE / Net income = $1 - \text{Payout ratio} = .60$

If the company wants to grow at 20 percent next year, what is the external financing (EFN) needed?

Sales
 Expenses _____
 EBIT
 Interest _____
 Taxable income
 Taxes (40%) _____
 Net income

Dividends
 Add to RE

Assets

Current Assets
 Cash
 Accounts rec.
 Inventory _____
 Total CA

Fixed assets
 Net PP&E _____

Total Assets

Liabilities & Equity

Current liabilities
 Accounts payable
 Notes payable _____
 Total CL

Long-term debt

Shareholder equity
 Common stock
 Retained earnings _____
 Total equity _____

Total L&E

EFN =

Growth rates

$$\text{Internal growth rate} = \frac{ROA \times b}{1 - ROA \times b}$$

$$\text{Sustainable growth rate} = \frac{ROE \times b}{1 - ROE \times b}$$

Both are often abbreviated:

Internal growth rate = $ROA \times b$

Sustainable growth rate = $ROE \times b$

Factors that affect growth rates:

1. Profit margin
2. Dividend policy
3. Financial policy or leverage
4. Total asset turnover

Lumpy or Staircase Fixed Assets

Suppose the company wants to grow sales at 20 percent but can only increase fixed assets in \$30,000 increments. What is the EFN now? Note that the income statement will not change.

Assets		Liabilities & Equity	
Current Assets		Current liabilities	
Cash	\$4,620	Accounts payable	\$10,140
Accounts rec.	5,520	Notes payable	<u>3,980</u>
Inventory	<u>11,280</u>	Total CL	\$14,120
Total CA	\$21,420		
Fixed assets		Long-term debt	\$42,500
Net PP&E	<u> </u>	Shareholder equity	
		Common stock	\$5,000
		Retained earnings	<u>61,631</u>
		Total equity	<u>\$66,631</u>
Total Assets		Total L&E	<u><u>\$123,251</u></u>

EFN =

Growth and Capital Intensity

Capital intensity ratio = Total assets / Sales

Suppose this company is operating at 80 percent of capacity. What is full capacity sales?

Full capacity sales =

Suppose the company still wants to grow sales at 20 percent and is operating at 80 percent capacity. What is the EFN now?

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Total Assets		Total L&E	<u><u>\$123,251</u></u>

EFN =