

Chapter 2 Financial Statements, Taxes and Cash Flow

Key Concepts and Skills

Know:

- The difference between book value and market value
- The difference between accounting income and cash flow
- The difference between average and marginal tax rates
- How to determine a firm's cash flow from its financial statements

Chapter Outline

- 2.1 The Balance Sheet
- 2.2 The Income Statement
- 2.3 Taxes
- 2.4 Cash Flow

The Balance Sheet

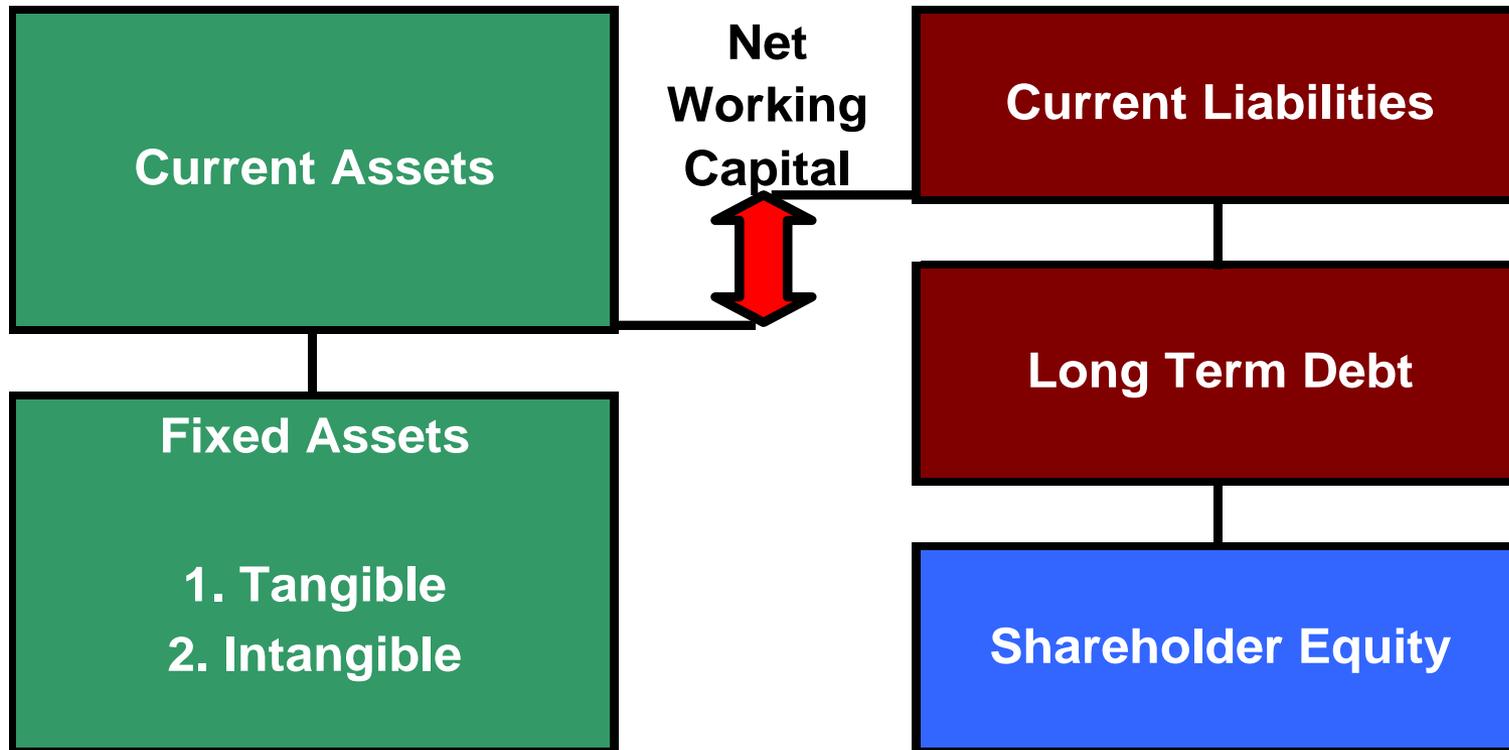
- A snapshot of the firm's assets and liabilities at a given point in time (“as of ...”)
- Assets
 - Left-hand side (or upper portion)
 - In order of decreasing liquidity
- Liabilities and Owners' Equity
 - Right-hand side (or lower portion)
 - In ascending order of when due to be paid
- Balance Sheet Identity
 - $\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$

The Balance Sheet

Figure 2.1

Total Value of Assets

**Total Value of Liabilities
and Shareholders' Equity**



The Balance Sheet

- Net working capital
 - Current Assets minus Current Liabilities
 - Usually positive for a healthy firm
- Liquidity
 - Speed and ease of conversion to cash without significant loss of value
 - Valuable in avoiding financial distress
- Debt versus Equity
 - Shareholders' equity = Assets - Liabilities

U.S. Corporation Balance Sheet

Table 2.1

U.S. CORPORATION
Balance Sheets as of December 31, 2009 and 2010
 (\$ in Millions)

TABLE 2.1

Balance sheets for
U.S. Corporation

	2009	2010		2009	2010
Assets			Liabilities and Owners' Equity		
Current assets			Current liabilities		
Cash	\$ 104	\$ 160	Accounts payable	\$ 232	\$ 266
Accounts receivable	455	688	Notes payable	196	123
Inventory	<u>553</u>	<u>555</u>	Total	<u>\$ 428</u>	<u>\$ 389</u>
Total	<u>\$1,112</u>	<u>\$1,403</u>			
Fixed assets			Long-term debt	\$ 408	\$ 454
Net fixed assets	<u>\$1,644</u>	<u>\$1,709</u>	Owners' equity		
			Common stock and paid-in surplus	600	640
			Retained earnings	<u>1,320</u>	<u>1,629</u>
			Total	<u>\$1,920</u>	<u>\$2,269</u>
Total assets	<u>\$2,756</u>	<u>\$3,112</u>	Total liabilities and owners' equity	<u>\$2,756</u>	<u>\$3,112</u>

Market vs. Book Value

- Book value = the balance sheet value of the assets, liabilities, and equity.
- Market value = true value; the price at which the assets, liabilities, or equity can actually be bought or sold.
 - Market value and book value are often very different. Why?
 - Which is more important to the decision-making process?



Klingon Corporation

Example 2.2

KLINGON CORPORATION					
Balance Sheets					
Market Value versus Book Value					
	Book	Market		Book	Market
Assets			Liabilities and Shareholders' Equity		
CA	\$ 400	\$ 600	LTD	\$ 500	\$ 500
NFA	700	1,000	Equity	600	1,100
	\$1,100	\$1,600		\$1,100	\$1,600

Income Statement

- The income statement measures performance over a specified period of time (period, quarter, year).
- Report revenues first and then deduct any expenses for the period
- End result = Net Income = “Bottom Line”
 - Dividends paid to shareholders
 - Addition to retained earnings
- Income Statement Equation:
 - Net Income = Revenue - Expenses

U.S. Corporation Income Statement

Table 2.2

TABLE 2.2

Income statement for
U.S. Corporation

U.S. CORPORATION		
2010 Income Statement		
(\$ in Millions)		
Net sales		\$1,509
Cost of goods sold		750
Depreciation		65
Earnings before interest and taxes		\$ 694
Interest paid		70
Taxable income		\$ 624
Taxes		212
Net income		<u>\$ 412</u>
Dividends	\$103	
Addition to retained earnings	309	

Financial Statements

- GAAP Matching Principle:
 - Recognize revenue when it is fully earned
 - Match expenses required to generate revenue to the period of recognition
- Noncash Items
 - Expenses charged against revenue that do not affect cash flow
 - Depreciation = most important



Financial Statements

- Time and Costs
 - Fixed or variable costs
 - Not obvious on income statement
- Earnings Management
 - Smoothing earnings
 - GAAP leaves “wiggle room”

Example: Work the Web

- Publicly traded companies must file regular reports with the Securities and Exchange Commission
- These reports are usually filed electronically and can be searched at the SEC public site called EDGAR
- Click on the web surfer, pick a company, and see what you can find!



Taxes

- Marginal vs. Average tax rates
 - Marginal – % tax paid on the next dollar earned
 - Average – total tax bill / taxable income
 - If considering a project that will increase taxable income by \$1 million, which tax rate should you use in your analysis?



Return to
Quick Quiz

2-15

Example: Marginal vs. Average Rates

- Suppose your firm earns \$4 million in taxable income.
 - What is the firm's tax liability?
 - What is the average tax rate?
 - What is the marginal tax rate?

Tax on \$4 million

Tax Liability on \$4,000,000

Corporate Tax Rates			Taxable	Tax
Taxable Income Levels		Tax Rate	Income	Liability
\$ -	\$ 50,000	15%	\$ 50,000	\$ 7,500
\$ 50,001	\$ 75,000	25%	\$ 25,000	\$ 6,250
\$ 75,001	\$ 100,000	34%	\$ 25,000	\$ 8,500
\$ 100,001	\$ 335,000	39%	\$ 235,000	\$ 91,650
\$ 335,001	\$ 10,000,000	34%	\$ 3,665,000	\$ 1,246,100
\$ 10,000,001	\$ 15,000,000	35%		
\$ 15,000,001	\$ 18,333,333	38%		
\$ 18,333,334	-	35%		
			\$ 4,000,000	\$ 1,360,000

Average Rate =	34%
Marginal Rate =	34%



The Concept of Cash Flow

- Cash flow = one of the most important pieces of information that can be derived from financial statements
- The accounting Statement of Cash Flows does **not** provide the same information that we are interested in here
- Our focus: how cash is generated from utilizing assets and how it is paid to those who finance the asset purchase.

Cash Flow From Assets

- Cash Flow From Assets (CFFA)
 - = Operating Cash Flow (OCF)
 - Net Capital Spending (NCS)
 - Changes in NWC (ΔNWC)

- Cash Flow From Assets (CFFA)
 - = Cash Flow to Creditors (CF/CR)
 - + Cash Flow to Stockholders (CF/SH)



Example: U.S. Corporation

Balance Sheet				
Assets			Liabilities & Owners' Equity	
	2009	2010	2009	2010
Current Assets			Current Liabilities	
Cash	\$104	\$160	Accounts Payable	\$232
Accounts Receivable	455	688	Notes Payable	196
Inventory	553	555	Total	\$428
Total	\$1,112	\$1,403		
Fixed Assets			Long-term debt	\$408
Net Fixed assets	\$1,644	\$1,709	Owners' equity	
			Common stock and	
			paid-in surplus	600
			Retained earnings	1,320
			Total	\$1,920
Total assets	\$2,756	\$3,112	Total Liabilities & Owners Equity	\$2,756

U.S. Corporation	
Income Statement	
Net sales	\$1,509
Cost of goods sold	750
Depreciation	65
Earnings before interest and taxes	\$694
Interest Paid	70
Taxable income	\$624
Taxes	212
Net Income	\$412
Dividends	\$103
Addition to retained earnings	\$309

- CFFA = OCF – NCS - ΔNWC**
 OCF = EBIT + depreciation – taxes
 = \$694 + 65 – 212 = **\$547**
 NCS = ending net FA– beginning net FA + depreciation
 = \$1709 – 1644 + 65 = **\$130**
 ΔNWC = ending NWC – beginning NWC
 = (\$1403 – 389) – (\$1112 – 428) = **\$330**
- CFFA = 547 – 130 – 330 = \$87**

Example: U.S. Corporation

U.S. Corporation				
Balance Sheet				
Assets			Liabilities & Owners' Equity	
	2009	2010	2009	2010
Current Assets			Current Liabilities	
Cash	\$104	\$160	Accounts Payable	\$232 \$266
Accounts Receivable	455	688	Notes Payable	196 123
Inventory	553	555	Total	\$428 \$389
Total	\$1,112	\$1,403		
Fixed Assets			Long-term debt	
Net Fixed assets	\$1,644	\$1,709		\$408 \$454
			Owners' equity	
			Common stock and	
			paid-in surplus	600 640
			Retained earnings	1,320 1,629
			Total	\$1,920 \$2,269
Total assets	\$2,756	\$3,112	Total Liabilities & Owners Equity	\$2,756 \$3,112

U.S. Corporation	
Income Statement	
Net sales	\$1,509
Cost of goods sold	750
Depreciation	65
Earnings before interest and taxes	\$694
Interest Paid	70
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Taxes	212
Net Income	\$412
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Addition to retained earnings	\$309

- CFFA = CF/CR + CF/SH**
 CF/CR = interest paid – net new borrowing
 = \$70 – (\$454 – 408) = **\$24**
 CF/SH = dividends paid – net new equity
 = \$103 – (\$640 – 600) = **\$63**
- CFFA = \$24 + \$63 = \$87**

Table 2.5

I. The cash flow identity

Cash flow from assets = Cash flow to creditors (bondholders)
+ Cash flow to stockholders (owners)

II. Cash flow from assets

Cash flow from assets = Operating cash flow
– Net capital spending
– Change in net working capital (NWC)

where

Operating cash flow = Earnings before interest and taxes (EBIT)
+ Depreciation – Taxes

Net capital spending = Ending net fixed assets – Beginning net fixed assets
+ Depreciation

Change in NWC = Ending NWC – Beginning NWC

III. Cash flow to creditors (bondholders)

Cash flow to creditors = Interest paid – Net new borrowing

IV. Cash flow to stockholders (owners)

Cash flow to stockholders = Dividends paid – Net new equity raised

Quick Quiz

- What is the difference between book value and market value? ([Slide 2.8](#))
 - Which should we use for decision making purposes?
- What is the difference between accounting income and cash flow?
 - Which do we need to use when making decisions? ([Slide 2.12](#))

Quick Quiz

- What is the difference between average and marginal tax rates?
 - Which should we use when making financial decisions? ([Slide 2.15](#))
- How do we determine a firm's cash flows?
 - What are the equations and where do we find the information? ([Slide 2.19](#))

Dole Cola Example

DOLE COLA		
2010 Income Statement		
Net sales		\$ 600
Cost of goods sold		\$ 300
Depreciation		\$ 150
EBIT		\$ 150
Interest paid		\$ 30
Taxable income		\$ 120
Taxes		\$ 41
Net income		\$ 79
Dividends	\$ 30	
Addtion to retained earnings	\$ 49	

Dole Cola

Operating Cash Flow

DOLE COLA	
2010 Income Statement	
Net sales	\$ 600
Cost of goods sold	\$ 300
Depreciation	\$ 150
EBIT	\$ 150
Interest paid	\$ 30
Taxable income	\$ 120
Taxes	\$ 41
Net income	\$ 79
Dividends	\$ 30
Addition to retained earnings	\$ 49

DOLE COLA	
2010 Operating Cash Flow	
EBIT	\$ 150
+ Depreciation	\$ 150
- Taxes	\$ 41
	\$ 259

Dole Cola

Net Capital Spending & Change in Net Working Capital

DOLE COLA	
2010 Net Capital Spending	
Ending Net Fixed Assets	\$ 750
- Beginning Net Fixed Assets	\$ 500
+ Depreciation	\$ 150
	\$ 400

DOLE COLA	
2010 Change in Net Working Capital	
2010 Current Assets	\$2,260.0
2010 Current Liabilities	\$1,710.0
2010 Net Working Capital	\$ 550
2009 Current Assets	\$2,130.0
2009 Current Liabilities	\$1,620.0
2009 Net Working Capital	\$ 510
Change in Net Working Capital	\$ 40

Dole Cola

Cash Flow from Assets

DOLE COLA	
2010 Cash Flow from Assets	
Operating Cash Flow	\$ 259
- Net Capital Spending	\$ 400
- Change in Net Working Capital	\$ 40
	\$ (181)



Dole Cola

CFFA – Option 2

DOLE COLA	
2010 Income Statement	
Net sales	\$ 600
Cost of goods sold	\$ 300
Depreciation	\$ 150
EBIT	\$ 150
Interest paid	\$ 30
Taxable income	\$ 120
Taxes	\$ 41
Net income	\$ 79
Dividends	\$ 30
Addition to retained earnings	\$ 49

DOLE COLA	
2010 Cash Flow from Assets	
Operating Cash Flow	\$ 259
- Net Capital Spending	\$ 400
- Change in Net Working Capital	\$ 40
	\$ (181)

Dole Cola

Cash Flow to Stockholders & Creditors

DOLE COLA		
2010 Cash Flow to Creditors		
Cash Flow from Assets		\$ (181)
= CF to stockholders		\$ 30
+ CF to creditors		???
DOLE COLA		
2010 Cash Flow to Creditors		
Interest Paid		
- Net New Borrowing		???

Dole Cola

Cash Flow to Creditors

DOLE COLA			
2010 Cash Flow to Creditors			
Interest Paid		\$	30
- Net New Borrowing	???	\$	(241)
		\$	(211)



Chapter 2

END