

Chapter 2

Financial Statements, Taxes, and Cash Flow

Key Concepts and Skills

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

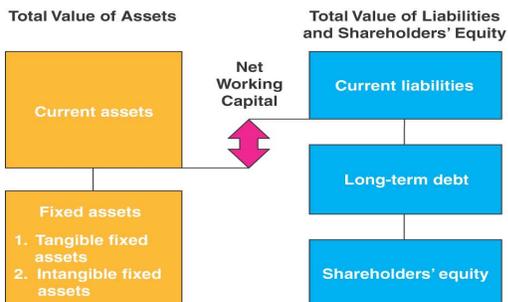
Chapter Outline

- The Balance Sheet
- The Income Statement
- Taxes
- Cash Flow

The Balance Sheet

- The balance sheet is a snapshot of the firm's assets and liabilities at a given point in time
- Assets are listed in order of decreasing liquidity
 - Ease of conversion to cash without significant loss of value
- Balance Sheet Identity
 - $\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$

Figure 2.1



U.S. Corporation Balance Sheet – Table 2.1

U.S. CORPORATION Balance Sheets as of December 31, 2007 and 2008 (\$ in Millions)					
	2007	2008	2007	2008	
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	553	555	Total	\$ 428	\$ 389
Total	\$1,112	\$1,403			
Fixed assets			Long-term debt	\$ 408	\$ 454
Net fixed assets	\$1,644	\$1,709	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 and owners' equity	\$2,756	\$3,112

Market vs. Book Value

- The balance sheet provides the book value of the assets, liabilities, and equity.
- Market value is 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

KLINGON CORPORATION					
Balance Sheets					
Market Value versus Book Value					
	Book	Market		Book	Market
Assets			Liabilities and Shareholders' Equity		
NWC	\$ 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 is more like a video of the firm's operations for a specified period of time
- You generally report revenues first and then deduct any expenses for the period
- Matching principle – GAAP says to recognize revenue when it is fully earned and match expenses required to generate revenue to the period of recognition

U.S. Corporation Income Statement - Table 2.2

U.S. CORPORATION	
2008 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	\$ 412
Dividends	\$103
Addition to retained earnings	309



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

- The one thing about taxes we can rely on is that they will always be changing
- Marginal vs. average tax rates
 - Marginal – the percentage paid on the next dollar earned
 - Average – the tax bill / taxable income
- Other taxes

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?
- If you are considering a project that will increase the firm's taxable income by \$1 million, what tax rate should you use in your analysis?

The Concept of Cash Flow

- Cash flow is one of the most important pieces of information that a financial manager can derive from financial statements
- The statement of cash flows does not provide us with the same information that we are looking at here
- We will look at how cash is generated from utilizing assets and how it is paid to those who finance the purchase of the assets

Cash Flow From Assets

- Cash Flow From Assets (CFFA) = Cash Flow to Creditors + Cash Flow to Stockholders
- Cash Flow From Assets = Operating Cash Flow – Net Capital Spending – Changes in NWC

Example: U.S. Corporation

- OCF (I/S) = EBIT + depreciation – taxes = \$547
- NCS (B/S and I/S) = ending net fixed assets – beginning net fixed assets + depreciation = \$130
- Changes in NWC (B/S) = ending NWC – beginning NWC = \$330
- CFFA = 547 – 130 – 330 = \$87
- CF to Creditors (B/S and I/S) = interest paid – net new borrowing = \$24
- CF to Stockholders (B/S and I/S) = dividends paid – net new equity raised = \$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

Example: Balance Sheet and Income Statement Information

- Current Accounts
 - 2007: CA = \$1,500; CL = \$1,300
 - 2008: CA = \$2,000; CL = \$1,700
- Fixed Assets and Depreciation
 - 2007: NFA = \$3,000; 2008: NFA = \$4,000
 - Depreciation expense = \$300
- LT Liabilities and Equity
 - 2007: LTD = \$2,200; Common Stock = \$500; RE = \$500
 - 2008: LTD = \$2,800; Common Stock = \$750; RE = \$750
- Income Statement Information
 - EBIT = \$2,700; Interest Expense = \$200; Taxes = \$1,000; Dividends = \$1,250

Example: Cash Flows

- $OCF = \$2,700 + \$300 - \$1,000 = \$2,000$
- $NCS = \$4,000 - \$3,000 + \$300 = \$1,300$
- $\text{Changes in NWC} = (\$2,000 - \$1,700) - (\$1,500 - \$1,300) = \100
- $CFFA = \$2,000 - \$1,300 - \$100 = \600
- $\text{CF to Creditors} = \$200 - (\$2,800 - \$2,200) = -\$400$
- $\text{CF to Stockholders} = \$1,250 - (\$750 - \$500) = \$1,000$
- $CFFA = -\$400 + \$1,000 = \$600$
- The CF identity holds.

Quick Quiz

- What is the difference between book value and market value? 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?
- What is the difference between average and marginal tax rates? Which should we use when making financial decisions?
- How do we determine a firm's cash flows? What are the equations and where do we find the information?

Comprehensive Problem

- **Current Accounts**
 - 2007: CA = \$4,400; CL = \$1,500
 - 2006: CA = \$3,500; CL = \$1,200
- **Fixed Assets and Depreciation**
 - 2007: NFA = \$3,400; 2006: NFA = \$3,100
 - Depreciation Expense = \$400
- **Long-term Debt and Equity (R.E. not given)**
 - 2007: LTD = \$4,000; Common stock & APIC = \$400
 - 2006: LTD = \$3,950; Common stock & APIC = \$400
- **Income Statement**
 - EBIT = \$2,000; Taxes = \$300
 - Interest Expense = \$350; Dividends = \$500
- **Compute the CFFA**