# 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

# 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
  - Assets = Liabilities + Stockholders' Equity

# THE BALANCE SHEET
# FIGURE 2.1

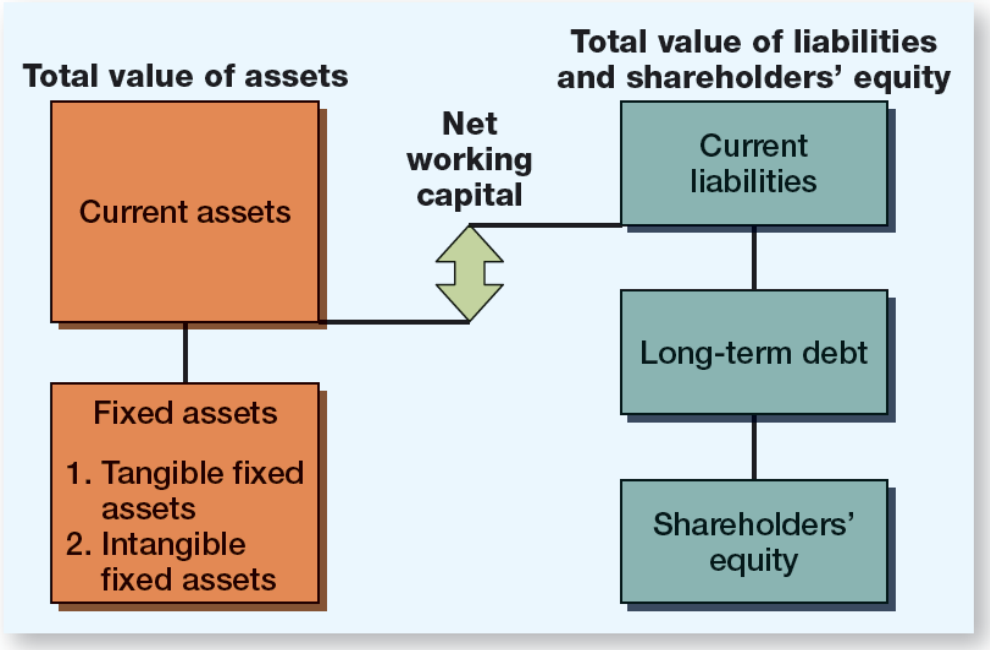


**FIGURE 2.1**

The Balance Sheet.
Left Side: Total Value of Assets.
Right Side: Total Value of Liabilities and Shareholders' Equity.

# NET WORKING CAPITAL AND LIQUIDITY

- Net Working Capital
  - = Current Assets – Current Liabilities
  - Positive when the cash that will be received over the next 12 months exceeds the cash that will be paid out
  - Usually positive in a healthy firm
- Liquidity
  - Ability to convert to cash quickly without a significant loss in value
  - Liquid firms are less likely to experience financial distress
  - But liquid assets typically earn a lower return
  - Trade-off to find balance between liquid and illiquid assets

# U.S. CORPORATION BALANCE SHEET TABLE 2.1

**TABLE 2.1**
**Balance Sheets**

| U.S. CORPORATION<br>2014 and 2015 Balance Sheets<br>($ in millions) | | | | | |
|---|---|---|---|---|---|
| **Assets** | | | **Liabilities and Owners' Equity** | | |
| | **2014** | **2015** | | **2014** | **2015** |
| 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 | | | | | |
| Net plant and equipment | $1,644 | $1,709 | Long-term debt | $ 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 and owners' equity | $2,756 | $3,112 |

# MARKET VALUE 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?

# EXAMPLE 2.2
# KLINGON CORPORATION

**KLINGON CORPORATION**
**Balance Sheets**
**Market Value versus Book Value**

| Assets | | | Liabilities and Shareholders' Equity | | |
|---|---|---|---|---|---|
| | Book | Market | | Book | Market |
| Net working capital | $ 400 | $ 600 | Long-term debt | $ 500 | $ 500 |
| Net fixed assets | 700 | 1,000 | Shareholders' 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 show revenue when it accrues and match the expenses required to generate the revenue

# U.S. CORPORATION INCOME STATEMENT – TABLE 2.2

**TABLE 2.2**
Income Statement

| U.S. CORPORATION<br>2015 Income Statement<br>($ 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 (34%) | | 212 |
| Net income | | $ 412 |
| Dividends | $103 | |
| Addition to retained earnings | 309 | |

# WORK THE WEB EXAMPLE

- 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 we can rely on with taxes is that they are always changing
- Marginal vs. average tax rates
  - Marginal tax rate – the percentage paid on the next dollar earned
  - Average tax rate – the tax bill / taxable income
  - Average tax rates vary widely across different companies and industries
- 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 that 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 – PART I

- 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

# EXAMPLE: U.S. CORPORATION – PART II

- 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

# CASH FLOW SUMMARY - TABLE 2.6

**TABLE 2.6**

**Cash Flow Summary**

| | |
|---|---|
| **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 INFO

- Current Accounts
  - 2015: CA = 3625; CL = 1787
  - 2014: CA = 3596; CL = 2140
- Fixed Assets and Depreciation
  - 2015: NFA = 2194; 2014: NFA = 2261
  - Depreciation Expense = 500
- Long-term Debt and Equity
  - 2015: LTD = 538; Common stock & APIC = 462
  - 2014: LTD = 581; Common stock & APIC = 372
- Income Statement
  - EBIT = 1014; Taxes = 368
  - Interest Expense = 93; Dividends = 285

# EXAMPLE: CASH FLOWS

- OCF = 1,014 + 500 – 368 = 1,146
- NCS = 2,194 – 2,261 + 500 = 433
- Changes in NWC =
  (3,625 – 1,787) – (3,596 – 2,140) = 382
- CFFA = 1,146 – 433 – 382 = **331**

- CF to Creditors = 93 – (538 – 581) = 136
- CF to Stockholders = 285 – (462 – 372) = 195
- CFFA = 136 + 195 = **331**
- 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?

# ETHICS ISSUES

- Why is manipulation of financial statements not only unethical and illegal, but also bad for stockholders?

# COMPREHENSIVE PROBLEM

- Current Accounts
  - 2015: CA = 4,400; CL = 1,500
  - 2014: CA = 3,500; CL = 1,200
- Fixed Assets and Depreciation
  - 2015: NFA = 3,400; 2014: NFA = 3,100
  - Depreciation Expense = 400
- Long-term Debt and Equity (R.E. not given)
  - 2015: LTD = 4,000; Common stock & APIC = 400
  - 2014: LTD = 3,950; Common stock & APIC = 400
- Income Statement
  - EBIT = 2,000; Taxes = 300
  - Interest Expense = 350; Dividends = 500
- **Compute the CFFA**

# CHAPTER 2

## END OF CHAPTER