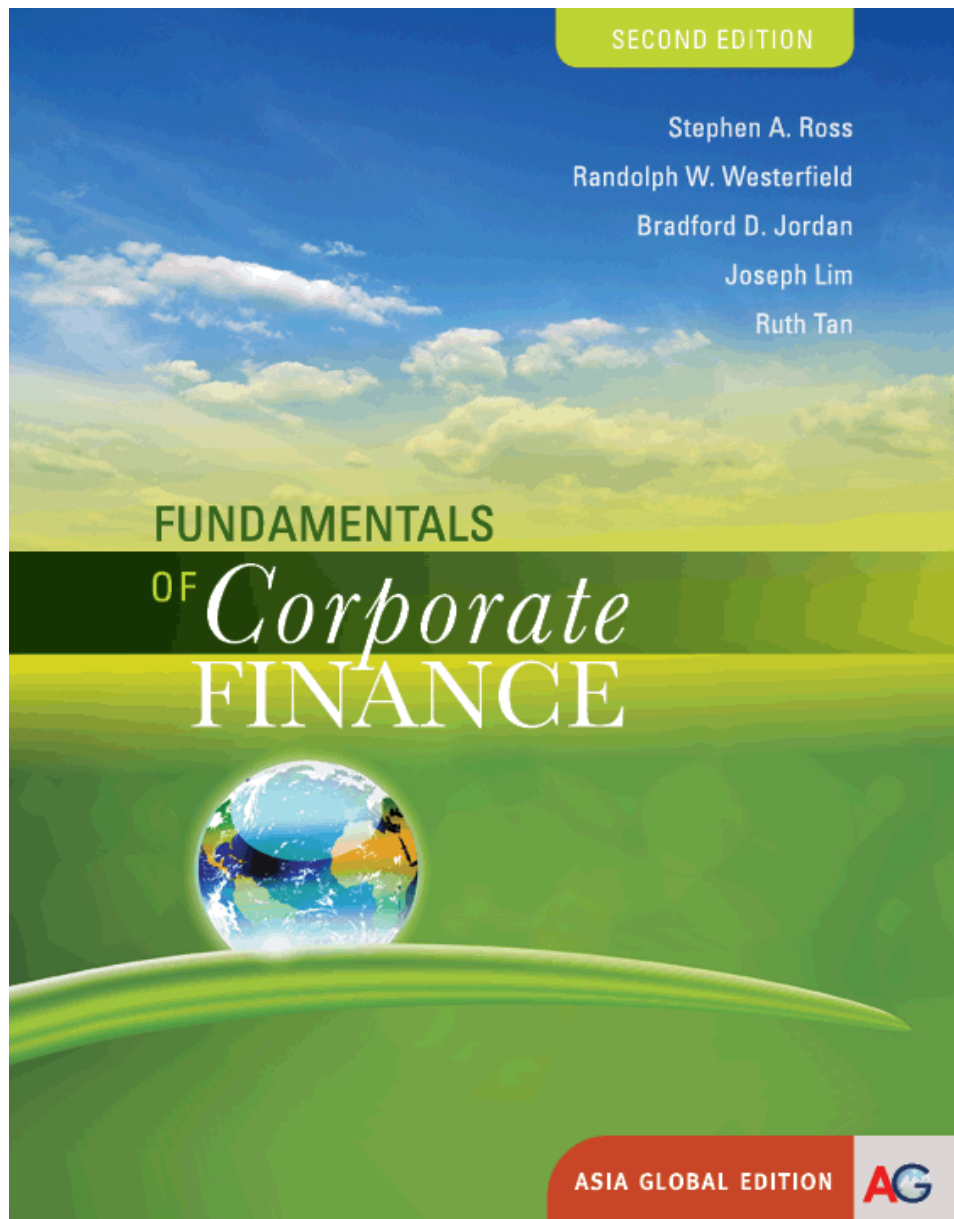




FUNDAMENTALS *of Corporate* FINANCE

SECOND EDITION

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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

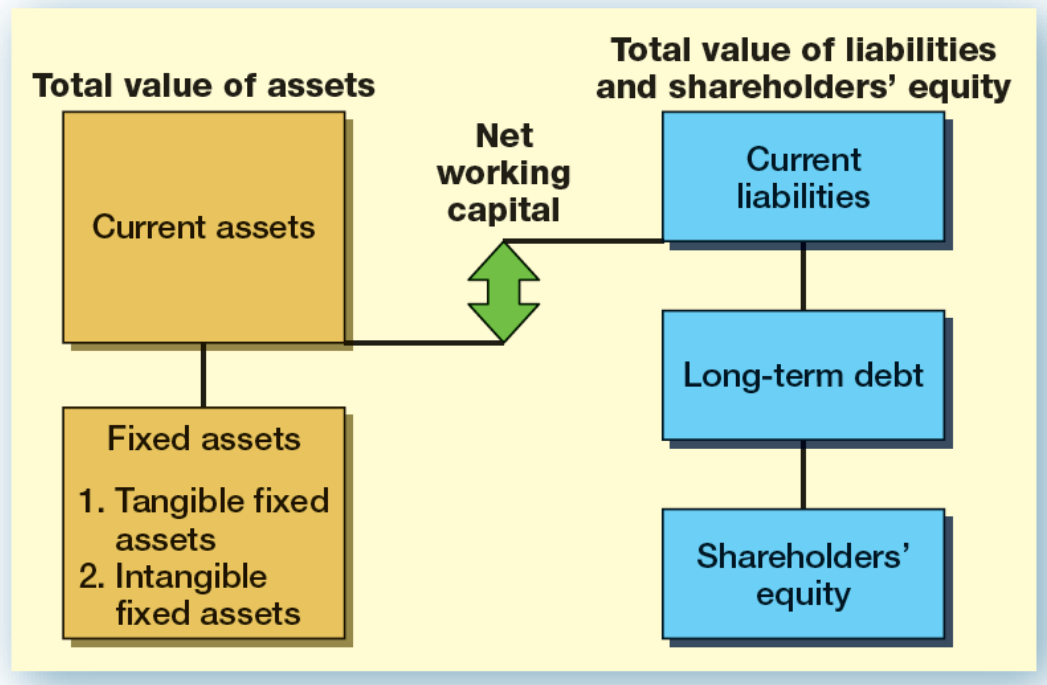
- The balance sheet is a snapshot of the firm's assets and liabilities at a given point in time
- Assets are listed in order of decreasing liquidity
 - Ease of conversion to cash
 - Without significant loss of value
- Balance Sheet Identity
 - $\text{Assets} = \text{Liabilities} + \text{Stockholders'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

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

ASIA-PACIFIC CORPORATION

BALANCE SHEET TABLE 2.1

ASIA-PACIFIC CORPORATION 2014 and 2015 Balance Sheets (\$ 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	<u>\$1,112</u>	<u>\$1,403</u>			
Fixed assets					
Net plant and equipment	<u>\$1,644</u>	<u>\$1,709</u>	Long-term debt	\$ 408	\$ 454
			Owners' equity		
			Common stock and paid-in surplus	600	640
			Retained earnings	1,320	1,629
			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 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

KL CORPORATION

KL 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	<u>700</u>	<u>1,000</u>	Shareholders' equity	<u>600</u>	<u>1,100</u>
	<u>\$1,100</u>	<u>\$1,600</u>		<u>\$1,100</u>	<u>\$1,600</u>

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

ASIA-PACIFIC CORPORATION

INCOME STATEMENT – TABLE 2.2

ASIA-PACIFIC CORPORATION 2015 Income Statement (\$ in millions)	
Net sales	\$1,509
Cost of goods sold	750
Depreciation	<u>65</u>
Earnings before interest and taxes	\$ 694
Interest paid	<u>70</u>
Taxable income	\$ 624
Taxes (34%)	<u>212</u>
Net income	<u><u>\$ 412</u></u>
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: ASIA-PACIFIC CORPORATION – PART I

- $OCF (\underline{I/S}) = EBIT + \text{depreciation} - \text{taxes} = \547
- $NCS (\underline{B/S} \text{ and } \underline{I/S}) = \text{ending net fixed assets} - \text{beginning net fixed assets} + \text{depreciation} = \130
- $\text{Changes in NWC} (\underline{B/S}) = \text{ending NWC} - \text{beginning NWC} = \330
- $CFFA = 547 - 130 - 330 = \87

EXAMPLE: ASIA-PACIFIC 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

I. The cash flow identity

$$\begin{aligned}\text{Cash flow from assets} &= \text{Cash flow to creditors (bondholders)} \\ &+ \text{Cash flow to stockholders (owners)}\end{aligned}$$

II. Cash flow from assets

$$\begin{aligned}\text{Cash flow from assets} &= \text{Operating cash flow} \\ &- \text{Net capital spending} \\ &- \text{Change in net working capital (NWC)}\end{aligned}$$

where:

$$\begin{aligned}\text{Operating cash flow} &= \text{Earnings before interest and taxes (EBIT)} \\ &+ \text{Depreciation} - \text{Taxes}\end{aligned}$$

$$\begin{aligned}\text{Net capital spending} &= \text{Ending net fixed assets} - \text{Beginning net fixed assets} \\ &+ \text{Depreciation}\end{aligned}$$

$$\text{Change in NWC} = \text{Ending NWC} - \text{Beginning NWC}$$

III. Cash flow to creditors (bondholders)

$$\text{Cash flow to creditors} = \text{Interest paid} - \text{Net new borrowing}$$

IV. Cash flow to stockholders (owners)

$$\text{Cash flow to stockholders} = \text{Dividends paid} - \text{Net new equity raised}$$

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 =
 $(3,625 - 1,787) - (3,596 - 2,140) = 382$
- $CFFA = 1,146 - 433 - 382 = \mathbf{331}$

- $CF \text{ to Creditors} = 93 - (538 - 581) = 136$
- $CF \text{ to Stockholders} = 285 - (462 - 372) = 195$
- $CFFA = 136 + 195 = \mathbf{331}$
- 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