Solutions for Essentials of Corporate Finance 11th Edition by Ross

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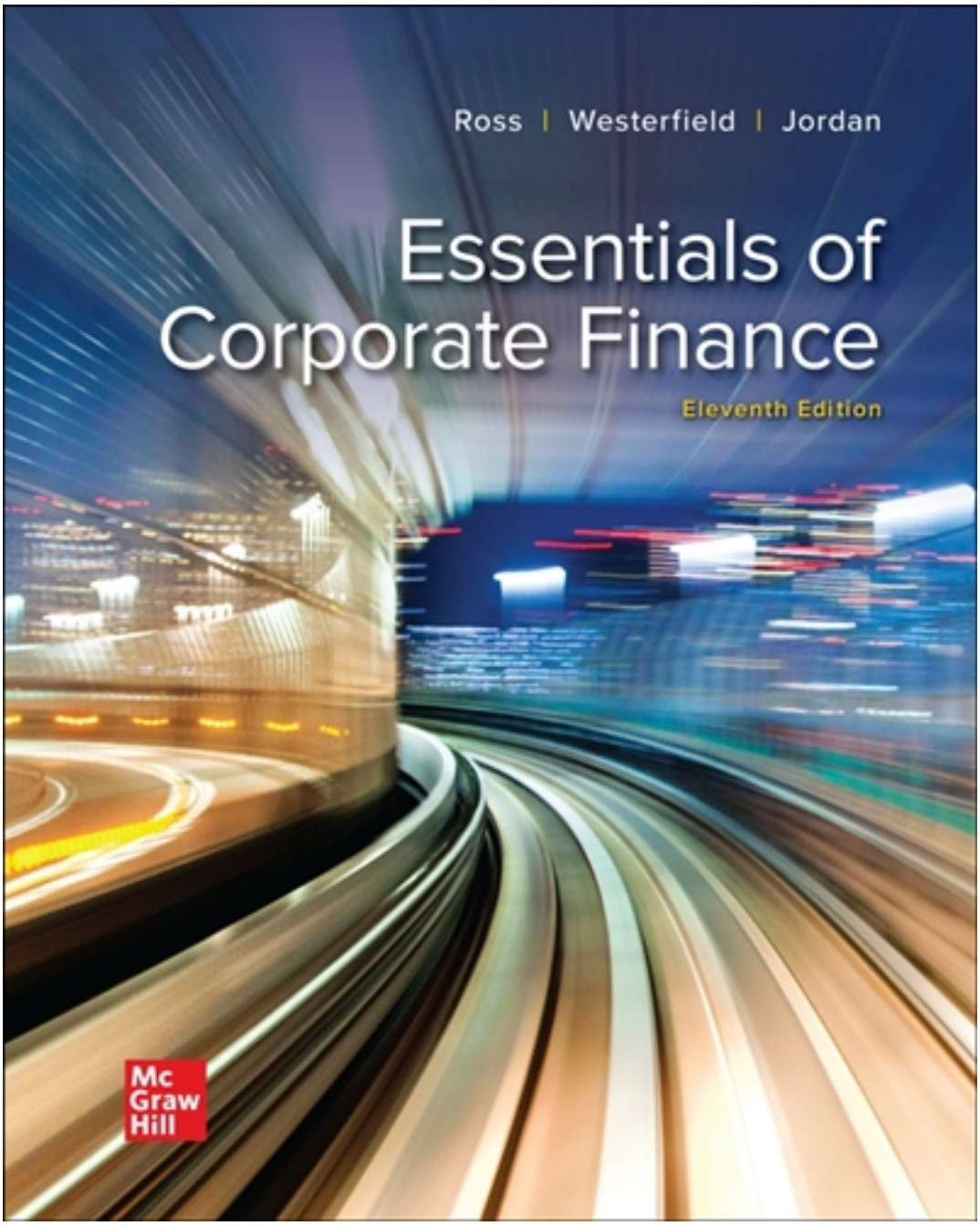

Solutions

Chapter 2

FINANCIAL STATEMENTS, TAXES, AND CASH FLOW

Financial Statements, Taxes, and Cash Flows			
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CHAPTER WEBSITES

Websites may be referenced more than once in a chapter. This table just includes the section for the first reference.

Chapter Section	Web Address
2.1	finance.yahoo.com
	www.cnn.com/business
	www.thewaltdisneycompany.com
	www.sec.gov
	www.fasb.org
2.2	www.ifrs.org
2.3	www.irs.gov
What's On the Web?	www.alcoa.com
	www.coca-cola.com
	www.duke-energy.com
	www.coopertire.com

Lecture Notes:

Chapters 2 and 3 are primarily accounting review. This chapter covers the balance sheet and income statement, which should be very familiar to students. The approach to calculating cash flow from assets may be a new concept as they have probably been introduced to the standard accounting statement of cash flows.

ANNOTATED CHAPTER OUTLINE

Slide 2.1 Chapter 2: Financial Statements, Taxes, and Cash Flow

Slide 2.2 Key Concepts and Skills

Slide 2.3 Chapter Outline

Slide 2.4 The Balance Sheet 1

- Current assets are listed first on the right-hand side because they are the most liquid. Fixed assets can include both tangible and intangible assets and generally are not very liquid.
- Liabilities and equity (or ownership) components of the firm are listed on the right-hand side and indicate how the assets are paid for.
- The Balance Sheet Identity: Assets = Liabilities + Shareholders' equity

Slide 2.5 The Balance Sheet 2

All finance decisions are either investment decisions or financing decisions.

- Investment decisions involve the purchase and sale of any assets (not just financial assets) and show up on the left-hand side of the balance sheet.

- Financing decisions involve the choice of whether to borrow money to buy the assets or to issue new ownership shares and show up on the right-hand side of the balance sheet.
- Shareholders' equity consists of the common stock account, paid in surplus, retained earnings and treasury stock.
- The firm's net income belongs to the owners. It can either be paid out in dividends or reinvested in the firm. When it is reinvested in the firm, it becomes additional equity investment and shows up in the retained earnings account.

Slide 2.6 The Balance Sheet 3

- Net Working Capital = Current assets – Current liabilities

- Liquidity has two components: how long it takes to convert to cash *and* the value that must be relinquished to convert to cash quickly. Any asset can be converted to cash quickly if you are willing to lower the price enough.

  Liquid assets provide lower returns so too much liquidity can be just as detrimental to shareholder wealth maximization as too little liquidity.

- Debt versus Equity
  Interest and principal payments on debt have to be paid before cash may be paid to stockholders.

  The company's gains and losses are magnified as the company increases the amount of debt in the capital structure, which is why the use of debt is called financial "leverage."

Slide 2.7 U.S. Corporation Balance Sheet

This is an example of a simplified balance sheet. If possible, bring in some annual reports and let the students see the differences between the simplified statements they see in textbooks and the real thing or use "Work the Web" (Slide 2.14) to show real financial statements.

Slide 2.8 Market Versus Book Value

Current assets and current liabilities generally have book values and market values that are very close. Assets are listed at historical cost less accumulated depreciation. "Total Assets" on the balance sheet is generally not a very good estimate of what the assets of the firm are actually worth.

Liabilities are listed at face value. When interest rates or the risk of the firm changes, the value of those liabilities change as well, especially longer-term liabilities.

Equity is the ownership interest in the firm. The market value of equity (stock price times number of shares) depends on the future growth prospects of the firm and on the market's estimation of the current value of ALL of the assets of the firm.

The best estimate of the market value of the firm's assets is market value of Liabilities + Market value of equity.

Accounting, or historical costs, are not very important to financial managers, while market values, which represent the cash price people are willing and able to pay, are very important.

Slide 2.9 Klingon Corporation

Shareholders benefit from increases in the market value of a firm's assets and they also bear the losses of a decrease in market value.

GAAP does provide for some assets to be marked-to-market, primarily those assets for which current market values are readily available due to trading in liquid markets. However, it does not generally apply to long-term assets, where market values and book values are likely to differ the most. Thus, it is unlikely that the aggregate balance sheet values provided by the firm will accurately reflect market values.

Slide 2.10 Income Statement

Earnings before interest and taxes (EBIT) is often called "operating income."

COGS would include both the fixed costs and the variable costs needed to generate the revenues.

The Income Statement Equation: Net Income = Revenue – Expenses

Analysts often look at EBITDA (earnings before interest, taxes, depreciation, and amortization) as a measure of the operating cash flow of the firm. It is not true in the strictest sense because taxes are an operating cash flow as well, but it does provide a reasonable estimate for analysis purposes.

Slide 2.11 U.S. Corporation Income Statement

Previously, it was noted that investment decisions are reflected on the left-hand side of the balance sheet and financing decisions are reflected on the right-hand side.

The income statement reflects investment decisions in the "top half," from sales to EBIT. Financing decisions are reflected in the "bottom half," from EBIT to net income and earnings per share.

Slide 2.12 Financial Statements 1

GAAP Matching Principle

- GAAP require that revenue be recognized when it is earned, not when the cash is received, and costs are matched to revenues. This introduces noncash deductions such as depreciation and amortization. Consequently, net income is NOT the same as cash flow.

Noncash Items

- The largest noncash deduction for most firms is depreciation. It reduces a firm's taxes and its net income. Noncash deductions are part of the reason that net income is not equivalent to cash flow.

Slide 2.13 Financial Statements 2 (Web link)

www: *Click on the link to go to the IFRS website for information on GAAP versus international accounting standards.*

Time and Costs

In the short run, some costs are fixed regardless of output, and other costs are variable, meaning they vary with the level of output. In the long run, all costs are variable.

GAAP allows sufficient management discretion that firms routinely "manage earnings" to present the best results to stockholders and analysts.

Slide 2.14 Example: Work the Web (Web link)

www: *Click on the link to go to the SEC "Search the EDGAR Database" website.*

An excellent opportunity to show the actual financial statements of a selected company using the SEC EDGAR website or Yahoo! Finance.

Slide 2.15 Taxes (Web link)

www: *Click on the link to go to the IRS website for the most up-to-date tax information.*

- For the purpose of computing a company's total tax liability, the average tax rate is the correct rate to apply to before-tax profits.
- In evaluating the cash flows expected from a new investment, the marginal tax rate is the appropriate rate to use, because the new investment will generate cash flows that will be taxed in addition to the company's existing profit.

Slide 2.16 Corporate Tax Rates

The federal corporate tax rate in the US became a flat 21 percent after the passage of the Tax Cuts and Jobs Act of 2017.

Slide 2.17 Example: Marginal Versus Average Rates

Suppose you are single and your personal taxable income is $100,000. What is your tax bill?

Slide 2.18 Tax on $100,000 (Excel link)

Tax liability:

.10($9,950)	= $ 995.00
.12($40,525 - 9,950)	= 3,669.00

.22($86,375 - 40,525)	= 10,087.00
.24($100,000 - 86,375)	= 3,270.00
	$18,021.00

Slide 2.19 Average & Marginal Tax Rates

Table 2.3 is useful for comparing actual marginal rates with average rates.

Slide 2.20 The Concept of Cash Flow

This is NOT the standard accounting Statement of Cash Flows.

Slide 2.21 Cash Flow from Assets

- The first equation shows the cash flow that the firm receives from its assets.
  CFFA = Operating cash flow – Net capital spending – Δ in net working capital

  Operating cash flow = EBIT + depreciation – taxes
  Net capital spending = ending fixed assets – beginning fixed assets + depreciation
  Changes in NWC = ending NWC – beginning NWC

- The second equation shows how the cash flow from the firm is divided among the investors who financed the assets.
  Cash flow from assets = Cash flow to creditors + Cash flow to stockholders

  Cash flow to creditors = interest paid – net new borrowing
  = interest paid – (ending long-term debt – beginning long-term debt)
  Cash flow to stockholders = dividends paid – net new equity raised
  = dividends paid – (ending common stock, APIC, & Treasury stock – beginning common stock, APIC, & Treasury stock)
  Where APIC = additional paid in capital or paid in surplus

Slide 2.22 Example: U.S. Corporation

- CFFA = OCF – NCS – ΔNWC
  OCF = EBIT + depreciation – taxes
  = $670 + 89 – 126 = $633
  NCS = ending net FA – beginning net FA + depreciation
  = $1,709 – 1,644 + 89 = $154
  ΔNWC = ending NWC – beginning NWC
  = ($1,403 – 389) – ($1,112 – 428) = $330
- CFFA = 633 – 154 – 330 = $149

Slide 2.23 Example: U.S. Corporation

- CFFA = CF/CR + CF/SH
  CF/CR = interest paid – net new borrowing
  = $70 – ($454 – 408) = $24

CF/SH = dividends paid – net new equity
= $165 – ($640 – 600) = $125

- CFFA = $24 + $125 = $149

Slide 2.24 Table 2.4

Slide 2.25 Quick Quiz 1

Slide 2.26 Quick Quiz 2

Comprehensive Problem—Dole Cola

This problem covers calculating CFFA using both formulas given on slide 2.21.

Slide 2.27 Dole Cola Example

Slide 2.28 Dole Cola: Operating Cash Flow

OCF = EBIT + Depreciation – Taxes

Slide 2.29 Dole Cola: Net Capital Spending & Change in Net Working Capital

NCS = Ending NFA – Beginning NFA + Depreciation
ΔNWC = [2022(CA – CL)] – [2021(CA – CL)]

Slide 2.30 Dole Cola: Cash Flow from Assets - Option 1

Excel link
CFFA = OCF – NCS – ΔNWC

Slide 2.31 Dole Cola: CFFA - Option 2

From Slide 2-31: CFFA = -$165

Slide 2.32 Dole Cola: Cash Flow to Stockholders & Creditors

CF to Stockholders (CF/SH) = Dividends – New equity
CF to creditors (CF/CR) can be derived from the CF to stockholders and CFFA
CF/CR = CFFA – CF/SH

Slide 2.33 Dole Cola: Cash Flow to Creditors

Excel link
Net new borrowing = CF/CR – Interest paid

Slide 2.34 Chapter 2: End

Slide 2.35 Accessibility Content: Text Alternatives for Images

Slide 2.36 The Balance Sheet 2 Text Alternative