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P2-19 on page 45

P3-26 on page 87

P4-4 on page 116

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10. **Firm Values [LO1]** Referring back to the Bank of America example used at the beginning of the chapter, note that we suggested that Bank of America's stockholders probably didn't suffer as a result of the reported loss. What do you think was the basis for our conclusion?
11. **Enterprise Value [LO1]** A firm's *enterprise value* is equal to the market value of its debt and equity, less the firm's holdings of cash and cash equivalents. This figure is particularly relevant to potential purchasers of the firm. Why?
12. **Earnings Management [LO2]** Companies often try to keep accounting earnings growing at a relatively steady pace, thereby avoiding large swings in earnings from period to period. They also try to meet earnings targets. To do so, they use a variety of tactics. The simplest way is to control the timing of accounting revenues and costs, which all firms can do to at least some extent. For example, if earnings are looking too low this quarter, then some accounting costs can be deferred until next quarter. This practice is called *earnings management*. It is common, and it raises a lot of questions. Why do firms do it? Why are firms even allowed to do it under GAAP? Is it ethical? What are the implications for cash flow and shareholder wealth?

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QUESTIONS AND PROBLEMS

BASIC
(Questions 1–13)

1. **Building a Balance Sheet [LO1]** Penguin Pucks, Inc., has current assets of $4,800, net fixed assets of $27,500, current liabilities of $4,200, and long-term debt of $10,500. What is the value of the shareholders' equity account for this firm? How much is net working capital?
2. **Building an Income Statement [LO1]** Billy's Exterminators, Inc., has sales of $734,000, costs of $315,000, depreciation expense of $48,000, interest expense of $35,000, and a tax rate of 35 percent. What is the net income for this firm?
3. **Dividends and Retained Earnings [LO1]** Suppose the firm in Problem 2 paid out $85,000 in cash dividends. What is the addition to retained earnings?
4. **Per-Share Earnings and Dividends [LO1]** Suppose the firm in Problem 3 had 110,000 shares of common stock outstanding. What is the earnings per share, or EPS, figure? What is the dividends per share figure?
5. **Market Values and Book Values [LO1]** Klingon Widgets, Inc., purchased new cloaking machinery three years ago for $6 million. The machinery can be sold to the Romulans today for $5.3 million. Klingon's current balance sheet shows net fixed assets of $3.2 million, current liabilities of $900,000, and net working capital of $215,000. If all the current assets were liquidated today, the company would receive $1.25 million cash. What is the book value of Klingon's total assets today? What is the market value?
6. **Calculating Taxes [LO3]** The Anberlin Co. had $255,000 in 2011 taxable income. Using the rates from Table 2.3 in the chapter, calculate the company's 2011 income taxes.
7. **Tax Rates [LO3]** In Problem 6, what is the average tax rate? What is the marginal tax rate?
8. **Calculating OCF [LO4]** Chevelle, Inc., has sales of $39,500, costs of $18,400, depreciation expense of $1,900, and interest expense of $1,400. If the tax rate is 35 percent, what is the operating cash flow, or OCF?
9. **Calculating Net Capital Spending [LO4]** Earnhardt Driving School's 2010 balance sheet showed net fixed assets of $2.8 million, and the 2011 balance sheet showed net

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fixed assets of $3.6 million. The company's 2011 income statement showed a depreciation expense of $345,000. What was net capital spending for 2011?

10. **Calculating Additions to NWC [LO4]** The 2010 balance sheet of Greystone, Inc., showed current assets of $3,120 and current liabilities of $1,570. The 2011 balance sheet showed current assets of $3,460 and current liabilities of $1,980. What was the company's 2011 change in net working capital, or NWC?

11. **Cash Flow to Creditors [LO4]** The 2010 balance sheet of Maria's Tennis Shop, Inc., showed long-term debt of $2.3 million, and the 2011 balance sheet showed long-term debt of $2.55 million. The 2011 income statement showed an interest expense of $190,000. What was the firm's cash flow to creditors during 2011?

12. **Cash Flow to Stockholders [LO4]** The 2010 balance sheet of Maria's Tennis Shop, Inc., showed $680,000 in the common stock account and $4.3 million in the additional paid-in surplus account. The 2011 balance sheet showed $715,000 and $4.7 million in the same two accounts, respectively. If the company paid out $540,000 in cash dividends during 2011, what was the cash flow to stockholders for the year?

13. **Calculating Total Cash Flows [LO4]** Given the information for Maria's Tennis Shop, Inc., in Problems 11 and 12, suppose you also know that the firm's net capital spending for 2011 was $1,300,000 and that the firm reduced its net working capital investment by $55,000. What was the firm's 2011 operating cash flow, or OCF?

INTERMEDIATE (Questions 14–22)

14. **Calculating Total Cash Flows [LO4]** Jetson Spacecraft Corp. shows the following information on its 2011 income statement: sales = $235,000; costs = $141,000; other expenses = $7,900; depreciation expense = $17,300; interest expense = $12,900; taxes = $19,565; dividends = $12,300. In addition, you're told that the firm issued $6,100 in new equity during 2011 and redeemed $4,500 in outstanding long-term debt.
    - **a.** What is the 2011 operating cash flow?
    - **b.** What is the 2011 cash flow to creditors?
    - **c.** What is the 2011 cash flow to stockholders?
    - **d.** If net fixed assets increased by $25,000 during the year, what was the addition to NWC?

15. **Using Income Statements [LO1]** Given the following information for Calvani Pizza Co., calculate the depreciation expense: sales = $52,000; costs = $27,300; addition to retained earnings = $5,300; dividends paid = $1,800; interest expense = $4,900; tax rate = 35 percent.

16. **Preparing a Balance Sheet [LO1]** Prepare a 2011 balance sheet for Cornell Corp. based on the following information: cash = $127,000; patents and copyrights = $630,000; accounts payable = $210,000; accounts receivable = $105,000; tangible net fixed assets = $1,620,000; inventory = $293,000; notes payable = $160,000; accumulated retained earnings = $1,278,000; long-term debt = $845,000.

17. **Residual Claims [LO1]** Dimeback, Inc., is obligated to pay its creditors $5,800 during the year.
    - **a.** What is the market value of the shareholders' equity if assets have a market value of $7,100?
    - **b.** What if assets equal $5,200?

18. **Marginal versus Average Tax Rates [LO3]** (Refer to Table 2.3.) Corporation Growth has $76,000 in taxable income, and Corporation Income has $7,600,000 in taxable income.
    - **a.** What is the tax bill for each firm?

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b. Suppose both firms have identified a new project that will increase taxable income by $10,000. How much in additional taxes will each firm pay? Why is this amount the same?

19. **Net Income and OCF [LO2]** During 2010, Raines Umbrella Corp. had sales of $850,000. Cost of goods sold, administrative and selling expenses, and depreciation expenses were $610,000, $110,000, and $140,000, respectively. In addition, the company had an interest expense of $85,000 and a tax rate of 35 percent. (Ignore any tax loss carryback or carryforward provisions.)

   a. What is Raines's net income for 2010?

   b. What is its operating cash flow?

   c. Explain your results in (*a*) and (*b*).

20. **Accounting Values versus Cash Flows [LO4]** In Problem 19, suppose Raines Umbrella Corp. paid out $63,000 in cash dividends. Is this possible? If spending on net fixed assets and net working capital was zero, and if no new stock was issued during the year, what do you know about the firm's long-term debt account?

21. **Calculating Cash Flows [LO2]** Zigs Industries had the following operating results for 2011: sales = $27,360; cost of goods sold = $19,260; depreciation expense = $4,860; interest expense = $2,190; dividends paid = $1,560. At the beginning of the year, net fixed assets were $16,380, current assets were $5,760, and current liabilities were $3,240. At the end of the year, net fixed assets were $20,160, current assets were $7,116, and current liabilities were $3,780. The tax rate for 2011 was 34 percent.

   a. What is net income for 2011?

   b. What is the operating cash flow for 2011?

   c. What is the cash flow from assets for 2011? Is this possible? Explain.

   d. If no new debt was issued during the year, what is the cash flow to creditors? What is the cash flow to stockholders? Explain and interpret the positive and negative signs of your answers in (*a*) through (*d*).

22. **Calculating Cash Flows [LO4]** Consider the following abbreviated financial statements for Parrothead Enterprises:

PARROTHEAD ENTERPRISES
2010 and 2011 Partial Balance Sheets

Assets	2010	2011	Liabilities and Owners' Equity	2010	2011
Current assets	$ 914	$ 990	Current liabilities	$ 365	$ 410
Net fixed assets	3,767	4,536	Long-term debt	1,991	2,117

PARROTHEAD ENTERPRISES
2011 Income Statement

Sales	$11,592
Costs	5,405
Depreciation	1,033
Interest paid	294

   a. What is owners' equity for 2010 and 2011?

   b. What is the change in net working capital for 2011?

   c. In 2011, Parrothead Enterprises purchased $1,890 in new fixed assets. How much in fixed assets did Parrothead Enterprises sell? What is the cash flow from assets for the year? (The tax rate is 35 percent.)

   d. During 2011, Parrothead Enterprises raised $378 in new long-term debt. How much long-term debt must Parrothead Enterprises have paid off during the year? What is the cash flow to creditors?

fact that these figures are quoted in a foreign currency make any difference? Why? In dollars, sales were $314,883. What was the net loss in dollars?

Some recent financial statements for Smolira Golf Corp. follow. Use this information to work Problems 26 through 30.

SMOLIRA GOLF CORP.
2011 and 2012 Balance Sheets

Assets	2011	2012	Liabilities and Owners' Equity	2011	2012
Current assets			Current liabilities		
Cash	$24,046	$ 24,255	Accounts payable	$ 23,184	$ 27,420
Accounts receivable	12,448	15,235	Notes payable	12,000	10,800
Inventory	25,392	27,155	Other	11,571	15,553
Total	$61,886	$ 66,645	Total	$ 46,755	$ 53,773
			Long-term debt	$ 80,000	$ 95,000
			Owners' equity		
			Common stock and paid-in surplus	$ 40,000	$ 40,000
Fixed assets			Accumulated retained earnings	219,826	243,606
Net plant and equipment	324,695	365,734	Total	$259,826	$283,606
Total assets	$386,581	$432,379	Total liabilities and owners' equity	$386,581	$432,379

SMOLIRA GOLF CORP.
2012 Income Statement

Sales		$366,996
Cost of goods sold		253,122
Depreciation		32,220
Earnings before interest and taxes		$ 81,654
Interest paid		14,300
Taxable income		$ 67,354
Taxes (35%)		23,574
Net income		$ 43,780
Dividends	$20,000	
Retained earnings	23,780	

26. **Calculating Financial Ratios [LO2]** Find the following financial ratios for Smolira Golf Corp. (use year-end figures rather than average values where appropriate):

Short-term solvency ratios:

a. Current ratio __________

b. Quick ratio __________

c. Cash ratio __________

Asset utilization ratios:

d. Total asset turnover __________

e. Inventory turnover __________

f. Receivables turnover __________

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Long-term solvency ratios:

g. Total debt ratio ______
h. Debt–equity ratio ______
i. Equity multiplier ______
j. Times interest earned ratio ______
k. Cash coverage ratio ______

Profitability ratios:

l. Profit margin ______
m. Return on assets ______
n. Return on equity ______

26.

27. **DuPont Identity [LO3]** Construct the DuPont identity for Smolira Golf Corp.

28. **Statement of Cash Flows [LO4]** Prepare the 2012 statement of cash flows for Smolira Golf Corp.

29. **Market Value Ratios [LO2]** Smolira Golf Corp. has 25,000 shares of common stock outstanding, and the market price for a share of stock at the end of 2012 was \$43. What is the price–earnings ratio? What are the dividends per share? What is the market-to-book ratio at the end of 2012? If the company's growth rate is 9 percent, what is the PEG ratio?

30. **Tobin's Q [LO2]** What is Tobin's Q for Smolira Golf? What assumptions are you making about the book value of debt and the market value of debt? What about the book value of assets and the market value of assets? Are these assumptions realistic? Why or why not?

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MINICASE

Ratio Analysis at S&S Air, Inc.

Chris Guthrie was recently hired by S&S Air, Inc., to assist the company with its financial planning and to evaluate the company's performance. Chris graduated from college five years ago with a finance degree. He has been employed in the finance department of a *Fortune* 500 company since then.

S&S Air was founded 10 years ago by friends Mark Sexton and Todd Story. The company has manufactured and sold light airplanes over this period, and the company's products have received high reviews for safety and reliability. The company has a niche market in that it sells primarily to individuals who own and fly their own airplanes. The company has two models; the Birdie, which sells for \$53,000, and the Eagle, which sells for \$78,000.

Although the company manufactures aircraft, its operations are different from commercial aircraft companies. S&S Air builds aircraft to order. By using prefabricated parts, the company can complete the manufacture of an airplane in only five weeks. The company also receives a deposit on each order, as well as another partial payment before the order is complete. In contrast, a commercial airplane may take one and one-half to two years to manufacture once the order is placed.

Mark and Todd have provided the following financial statements. Chris has gathered the industry ratios for the light airplane manufacturing industry.

S&S AIR, INC.
2012 Income Statement

Sales		\$36,599,300
Cost of goods sold		26,669,496
Other expenses		4,641,000
Depreciation		1,640,200
EBIT		\$ 3,648,604
Interest		573,200
Taxable income		\$ 3,075,404
Taxes (40%)		1,230,162
Net income		\$ 1,845,242
Dividends	\$560,000	
Add to retained earnings	1,285,242	

3. **Calculating EFN [LO2]** The most recent financial statements for Dockett, Inc., are shown here (assuming no income taxes):

Income Statement		Balance Sheet			
Sales	$7,100	Assets	$21,900	Debt	$ 9,400
Costs	4,370			Equity	12,500
Net income	$2,730	Total	$21,900	Total	$21,900

Assets and costs are proportional to sales. Debt and equity are not. No dividends are paid. Next year's sales are projected to be $8,449. What is the external financing needed?

4. **EFN [LO2]** The most recent financial statements for GPS, Inc., are shown here:

Income Statement		Balance Sheet			
Sales	$26,400	Assets	$65,000	Debt	$27,400
Costs	17,300			Equity	37,600
Taxable income	$ 9,100	Total	$65,000	Total	$65,000
Taxes (40%)	3,640				
Net income	$ 5,460				

Assets and costs are proportional to sales. Debt and equity are not. A dividend of $2,300 was paid, and the company wishes to maintain a constant payout ratio. Next year's sales are projected to be $30,360. What is the external financing needed?

5. **EFN [LO2]** The most recent financial statements for Xporter, Inc., are shown here:

Income Statement		Balance Sheet			
Sales	$5,700	Current assets	$ 3,900	Current liabilities	$ 2,200
Costs	4,200	Fixed assets	8,100	Long-term debt	3,750
Taxable income	$1,500			Equity	6,050
Taxes (34%)	510	Total	$12,000	Total	$12,000
Net income	$ 990				

Assets, costs, and current liabilities are proportional to sales. Long-term debt and equity are not. The company maintains a constant 40 percent dividend payout ratio. As with every other firm in its industry, next year's sales are projected to increase by exactly 15 percent. What is the external financing needed?

6. **Calculating Internal Growth [LO3]** The most recent financial statements for Live Co. are shown here:

Income Statement		Balance Sheet			
Sales	$17,500	Current assets	$10,400	Debt	$17,500
Costs	11,800	Fixed assets	28,750	Equity	21,650
Taxable income	$ 5,700	Total	$39,150	Total	$39,150
Taxes (40%)	2,280				
Net income	$ 3,420				

Assets and costs are proportional to sales. Debt and equity are not. The company maintains a constant 30 percent dividend payout ratio. No external equity financing is possible. What is the internal growth rate?

7. **Calculating Sustainable Growth [LO3]** For the company in the previous problem, what is the sustainable growth rate?

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8. **Sales and Growth [LO2]** The most recent financial statements for McGovney Co. are shown here:

Income Statement		Balance Sheet			
Sales	$49,000	Current assets	$ 21,000	Long-term debt	$ 51,000
Costs	37,500	Fixed assets	86,000	Equity	56,000
Taxable income	$11,500	Total	$107,000	Total	$107,000
Taxes (34%)	3,910				
Net income	$ 7,590				

Assets and costs are proportional to sales. The company maintains a constant 30 percent dividend payout ratio and a constant debt–equity ratio. What is the maximum increase in sales that can be sustained assuming no new equity is issued?

9. **Calculating Retained Earnings from Pro Forma Income [LO1]** Consider the following income statement for the Heir Jordan Corporation:

HEIR JORDAN CORPORATION Income Statement		
Sales		$47,000
Costs		31,300
Taxable income		$15,700
Taxes (35%)		5,495
Net income		$10,205
Dividends	$2,500	
Addition to retained earnings	7,705	

A 20 percent growth rate in sales is projected. Prepare a pro forma income statement assuming costs vary with sales and the dividend payout ratio is constant. What is the projected addition to retained earnings?

10. **Applying Percentage of Sales [LO1]** The balance sheet for the Heir Jordan Corporation follows. Based on this information and the income statement in the previous problem, supply the missing information using the percentage of sales approach. Assume that accounts payable vary with sales, whereas notes payable do not. Put "n/a" where needed.

HEIR JORDAN CORPORATION
Balance Sheet

Assets	$	Percentage of Sales	Liabilities and Owners' Equity	$	Percentage of Sales
Current assets			Current liabilities		
Cash	$ 2,950	—	Accounts payable	$ 2,400	—
Accounts receivable	4,100	—	Notes payable	5,400	—
Inventory	6,400	—	Total	$ 7,800	—
Total	$13,450	—	Long-term debt	$28,000	—
Fixed assets					
Net plant and equipment	$41,300	—	Owners' equity		
			Common stock and paid-in surplus	$15,000	—
			Retained earnings	3,950	—
			Total	$18,950	—
Total assets	$54,750	—	Total liabilities and owners' equity	$54,750	—

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