

Chapter 3

Financial Statements, Cash Flow, and Taxes

Learning Objectives

After reading this chapter, students should be able to:

- ◆ List each of the key financial statements and identify the kinds of information they provide to corporate managers and investors.
- ◆ Estimate a firm's free cash flow and explain why free cash flow has such an important effect on firm value.
- ◆ Discuss the major features of the federal income tax system.

Lecture Suggestions

The goal of financial management is to take actions that will maximize the value of a firm's stock. These actions will show up, eventually, in the financial statements, so a general understanding of financial statements is critically important.

Note that Chapter 3 provides a bridge between accounting, which students have just covered, and financial management. Unfortunately, many non-accounting students did not learn as much as they should have in their accounting courses, so we find it necessary to spend more time on financial statements than we would like. Also, at Florida and many other schools, students vary greatly in their knowledge of accounting, with accounting majors being well-grounded because they have had more intense introductory courses and, more importantly, because they are taking advanced financial accounting concurrently with finance. This gives the accountants a major, and somewhat unfair, advantage over the others in dealing with Chapters 3 and 4 on exams. We know of no good solution to this problem, but what we do is pitch the coverage of this material to the non-accountants. If we pitch the lectures (and exams) to the accountants, they simply blow away and demoralize our non-accountants, and we do not want that. Perhaps Florida has more of a difference between accounting and non-accounting students, but at least for us there really is a major difference.

What we cover, and the way we cover it, can be seen by scanning the slides and Integrated Case solution for Chapter 3, which appears at the end of this chapter's solutions. For other suggestions about the lecture, please see the "Lecture Suggestions" in Chapter 2, where we describe how we conduct our classes.

DAYS ON CHAPTER: 2 OF 56 DAYS (50-minute periods)

Answers to End-of-Chapter Questions

- 3-1** The four financial statements contained in most annual reports are the balance sheet, income statement, statement of stockholders' equity, and statement of cash flows.
- 3-2** Bankers and investors use financial statements to make intelligent decisions about what firms to extend credit or in which to invest, managers need financial statements to operate their businesses efficiently, and taxing authorities need them to assess taxes in a reasonable way.
- 3-3** No, because the \$20 million of retained earnings would probably not be held as cash. The retained earnings figure represents the reinvestment of earnings by the firm over its life. Consequently, the \$20 million would be an investment in all of the firm's assets.
- 3-4** The balance sheet shows the firm's financial position on a specific date, for example, December 31, 2012. It shows each account balance at that particular point in time. For example, the cash account shown on the balance sheet would represent the cash the firm has on hand and in the bank on December 31, 2012. The income statement, on the other hand, reports on the firm's operations over a period of time, for example, over the last 12 months. It reports revenues and expenses that the firm has incurred over that particular time period. For example, the sales figures reported on the income statement for the period ending December 31, 2012, would represent the firm's sales over the period from January 1, 2012, through December 31, 2012, not just sales for December 31, 2012.
- 3-5** Investors need to be cautious when they review financial statements. While companies are required to follow GAAP, managers still have quite a lot of discretion in deciding how and when to report certain transactions. Consequently, two firms in exactly the same operating situation may report financial statements that convey different impressions about their financial strength. Some variations may stem from legitimate differences of opinion about the correct way to record transactions. In other cases, managers may choose to report numbers in a way that helps them present either higher earnings or more stable earnings over time. As long as they follow GAAP, such actions are not illegal, but these differences make it harder for investors to compare companies and gauge their true performances.
- Unfortunately, there have also been cases where managers overstepped the bounds and reported fraudulent statements. Indeed, a number of high-profile executives have faced criminal charges because of their misleading accounting practices.
- 3-6**
- a. No, the average American household's financial position has declined over 2004–2009. Over this period of time, mortgage and installment loan balances increased, total assets decreased due to the decline in cash in bank accounts and the values of retirement savings and personal homes, and income has declined slightly.
 - b. As this text is being written (May 2011) unemployment is still high and the number of foreclosures and bank-owned properties have flooded the supply of homes so home prices are still on the decline. Consequently, one would expect the average household's financial position not to have improved from the 2009 numbers. In fact, one might even estimate a further decline. However, there are markets like the Midwest with stronger economies (agriculture and energy) where the situation has improved, so some experts are anticipating a more rosy picture in 2012. Only time will tell...

- 3-7** Free cash flow is the amount of cash that could be withdrawn from the firm without harming its ability to operate and to produce future cash flows. It is calculated as after-tax operating income plus depreciation less capital expenditures and the change in net operating working capital. It is more important than net income because it shows the exact amount available to all investors (stockholders and debtholders). The value of a company's operations depends on expected future free cash flows. Therefore, managers make their companies more valuable by increasing their free cash flow. Net income, on the other hand, reflects accounting profit but not cash flow. Therefore, investors ought to focus on cash flow rather than accounting profit.
- 3-8** Yes. Negative free cash flow is not necessarily bad. Most rapidly growing companies have negative free cash flows because the fixed assets and working capital needed to support rapid growth generally exceed cash flows from existing operations. This is not bad, provided the new investments will eventually be profitable and they contribute to free cash flow.
- 3-9** This statement means that the higher one's income, the larger the percentage paid in taxes.
- 3-10** Double taxation refers to the fact that corporate income is subject to an income tax, and then stockholders are subject to a further personal tax on dividends received. In fact, because of double taxation Congress was motivated to reduce the tax rate on dividends to the same rate (15%) as long-term capital gains (at least through 2012). However, the tax rate is scheduled to rise on January 1, 2013.
Income could even be subject to triple taxation. Triple taxation occurs when (1) the original corporation is first taxed, (2) the second corporation is then taxed on the dividends it received, and (3) the individuals who receive the final dividends are taxed again. Therefore, corporations that receive dividend income can exclude some of the dividends from its taxable income. This provision in the Tax Code minimizes the amount of triple taxation that would otherwise occur.
- 3-11** Because interest paid is tax deductible but dividend payments are not, the after-tax cost of debt is lower than the after-tax cost of equity. This encourages the use of debt rather than equity. This point is discussed in detail in Chapters 10 and 14.
- 3-12** The ordering sequence of asset items is based on *liquidity*. The most easily converted item is listed at the top of the balance sheet while the least liquid item is listed at the bottom of the balance sheet.
- 3-13** Owners' equity represents a company's net worth. It is the difference between the value of all assets and the value of all liabilities. This residual value belongs to shareholders. There are two major parts of shareholders' net assets: contributed capital and retained earnings.
- 3-14** According to IAS 7.31¹, interest received and interest paid may be classified as operating, investing, or financing cash flows, provided that they are classified consistently from period to period

¹ International Accounting Standards

Solutions to End-of-Chapter Problems

3-1 From the data given in the problem, we know the following:

Current assets	\$ 500,000 ^b	Accounts payable and accruals	\$ 100,000 ^d
Net plant and equipment	2,000,000	Notes payable	<u>150,000</u>
		Current liabilities	\$ 250,000 ^c
		Long-term debt	750,000
		Total common equity	<u>1,500,000</u>
Total assets	<u>\$2,500,000</u>	Total liabilities and equity	<u>\$2,500,000^a</u>

Note: Superscripts correspond to parts below.

- a. We are given that the firm's total assets equal \$2,500,000. Since both sides of the balance sheet must equal, total liabilities and equity must equal total assets = \$2,500,000.
- b. $\text{Total assets} = \text{Current assets} + \text{Net plant and equipment}$
 $\$2,500,000 = \text{Current assets} + \$2,000,000$
 $\text{Current assets} = \$2,500,000 - \$2,000,000$
 $\text{Current assets} = \$500,000.$
- c. $\text{Total liabilities and equity} = \text{Current liabilities} + \text{Long-term debt} + \text{Total common equity}$
 $\$2,500,000 = \text{Current liabilities} + \$750,000 + \$1,500,000$
 $\$2,500,000 = \text{Current liabilities} + \$2,250,000$
 $\text{Current liabilities} = \$2,500,000 - \$2,250,000$
 $\text{Current liabilities} = \$250,000.$
- d. $\text{Current liabilities} = \text{Accounts payable and accruals} + \text{Notes payable}$
 $\$250,000 = \text{Accounts payable and accruals} + \$150,000$
 $\text{Accounts payable and accruals} = \$250,000 - \$150,000$
 $\text{Accounts payable and accruals} = \$100,000.$
- e. $\text{Net working capital} = \text{Current assets} - \text{Current liabilities}$
 $\text{Net working capital} = \$500,000 - \$250,000$
 $\text{Net working capital} = \$250,000.$
- f. $\text{Net operating working capital} = \text{Current assets} - (\text{Current liabilities} - \text{Notes payable})$
 $\text{Net operating working capital} = \$500,000 - (\$250,000 - \$150,000)$
 $\text{Net operating working capital} = \$400,000.$
- g. $\text{NOWC} - \text{NWC} = \$400,000 - \$250,000$
 $\text{NOWC} - \text{NWC} = \$150,000.$

The difference between the two is equal to the notes payable balance.

- 3-2** NI = \$3,000,000; EBIT = \$6,000,000; T = 40%; Interest = ?
Need to set up an income statement and work from the bottom up.

EBIT	\$6,000,000	
Interest	<u>1,000,000</u>	
EBT	\$5,000,000	$EBT = \frac{\$3,000,000}{(1 - T)} = \frac{\$3,000,000}{0.6}$
Taxes (40%)	<u>2,000,000</u>	
NI	<u>\$3,000,000</u>	

$$\text{Interest} = \text{EBIT} - \text{EBT} = \$6,000,000 - \$5,000,000 = \$1,000,000.$$

- 3-3**
- | | | | |
|--------------|--------------------|---|---|
| EBITDA | \$7,500,000 | (Given) | |
| Depreciation | <u>2,500,000</u> | Deprec. = EBITDA – EBIT = \$7,500,000 – \$5,000,000 | |
| EBIT | \$5,000,000 | EBIT = EBT + Int = \$3,000,000 + \$2,000,000 | |
| Interest | <u>2,000,000</u> | (Given) | |
| EBT | \$3,000,000 | | $\frac{\$1,800,000}{(1 - T)} = \frac{\$1,800,000}{0.6}$ |
| Taxes (40%) | <u>1,200,000</u> | Taxes = EBT × Tax rate | |
| NI | <u>\$1,800,000</u> | (Given) | |

- 3-4** NI = \$50,000,000; R/E_{Y/E} = \$810,000,000; R/E_{B/Y} = \$780,000,000; Dividends = ?

$$\begin{aligned} R/E_{B/Y} + NI - \text{Div} &= R/E_{Y/E} \\ \$780,000,000 + \$50,000,000 - \text{Div} &= \$810,000,000 \\ \$830,000,000 - \text{Div} &= \$810,000,000 \\ \$20,000,000 &= \text{Div}. \end{aligned}$$

- 3-5**
- $$\begin{aligned} \text{MVA} &= (P_0 \times \text{Number of common shares}) - \text{BV of equity} \\ \$130,000,000 &= \$60X - \$500,000,000 \\ \$630,000,000 &= \$60X \\ X &= 10,500,000 \text{ common shares.} \end{aligned}$$

- 3-6** Book value of equity = \$35,000,000.
Price per share (P₀) = \$30.00.
Common shares outstanding = 2,000,000 shares.

$$\begin{aligned} \text{Market value of equity} &= P_0 \times \text{Common shares outstanding} \\ &= \$30 \times 2,000,000 \\ &= \$60,000,000. \end{aligned}$$

$$\begin{aligned} \text{MVA} &= \text{Market value of equity} - \text{Book value of equity} \\ &= \$60,000,000 - \$35,000,000 \\ &= \$25,000,000. \end{aligned}$$

- 3-7** Statements b and d will decrease the amount of cash on a company's balance sheet. Statement a will increase cash through the sale of common stock. Selling stock provides cash through financing activities. On one hand, Statement c would decrease cash; however, it is also possible that Statement c would increase cash, if the firm receives a tax refund for taxes paid in a prior year.

3-8 Ending R/E = Beg. R/E + Net income – Dividends
 $\$278,900,000 = \$212,300,000 + \text{Net income} - \$22,500,000$
 $\$278,900,000 = \$189,800,000 + \text{Net income}$
 Net income = \$89,100,000.

3-9 Tax rate 35%
 WACC 9%
 Investor-supplied operating capital \$15,000,000

Sales \$22,500,000
 Operating costs (including depreciation) 18,000,000
 EBIT \$ 4,500,000

EVA = (EBIT)(1 – T) – (Operating Capital)(WACC)
 $= \$4,500,000(0.65) - (\$15,000,000)(0.09)$
 $= \$2,925,000 - \$1,350,000$
 $= \$1,575,000.$

- 3-10 a.** From the statement of cash flows the change in cash must equal cash flow from operating activities plus long-term investing activities plus financing activities. First, we must identify the change in cash as follows:

Cash at the end of the year \$25,000
 – Cash at the beginning of the year – 55,000
 Change in cash -\$30,000

The sum of cash flows generated from operations, investment, and financing must equal a negative \$30,000. Therefore, we can calculate the cash flow from operations as follows:

CF from operations + CF from investing + CF from financing = Δ in cash
 $\text{CF from operations} - \$250,000 + \$170,000 = -\$30,000$
 $\text{CF from operations} = \$50,000.$

- b.** Since we determined that the firm's cash flow from operations totaled \$50,000 in Part a of this problem, we can now calculate the firm's net income as follows:

NI + Depreciation + Increase in accrued liabilities – Increase in A/R and inventory = CF from operations
 $\text{NI} + \$10,000 + \$25,000 - \$100,000 = \$50,000$
 $\text{NI} - \$65,000 = \$50,000$
 $\text{NI} = \$115,000.$

3-11

Statement of Cash Flows

I. Operating Activities	
Net income	\$5,000,000
Depreciation	450,000
Δ NWC	<u>0</u>
Net cash provided by operating activities	<u>\$5,450,000</u>
II. Long-Term Investing Activities	
Additions to property, plant, and equipment	<u>(\$5,500,000)</u>
Net cash used in investing activities	<u>(\$5,500,000)</u>
III. Financing Activities	
Increase in long-term debt	\$1,000,000
Payment of common dividends	<u>(750,000)</u>
Net cash provided by financing activities	<u>\$ 250,000</u>
IV. Summary	
Net increase in cash (Net sum of I., II., and III.)	\$ 200,000
Cash at beginning of year	<u>100,000</u>
Cash at end of year	<u>\$ 300,000</u>

3-12 a. $\text{NOWC}_{2011} = \text{Total CA} - (\text{Current liabilities} - \text{Notes payable})$
 $= \$59,000 - (\$20,150 - \$5,150)$
 $= \$44,000.$

$\text{NOWC}_{2012} = \$72,125 - (\$25,100 - \$6,700)$
 $= \$53,725.$

b. $\text{FCF}_{2012} = [\text{EBIT}(1 - T) + \text{Deprec.}] - [\text{Capital expenditures} + \Delta\text{NOWC}]$
 $= [\$39,000(1 - 0.4) + \$5,000] - [\$8,000 + \$9,725]$
 $= \$10,675.$

Note: To arrive at capital expenditures you add depreciation to the change in net FA, so
Capital expenditures = \$5,000 + \$3,000 = \$8,000.

c.

Statement of Stockholders' Equity, 2012				
	<u>Common Stock</u>		<u>Retained</u>	<u>Total Stockholders'</u>
	<u>Shares</u>	<u>Amount</u>	<u>Earnings</u>	<u>Equity</u>
Balances, 12/31/11	5,000	\$50,000	\$20,850	\$70,850
2012 Net income			22,350	
Cash dividends			(11,175)	
Addition (Subtraction)				
to retained earnings				<u>11,175</u>
Balances, 12/31/12	<u>5,000</u>	<u>\$50,000</u>	<u>\$32,025</u>	<u>\$82,025</u>

d. From Bailey's 2012 financial statements, you can determine EBIT = \$39,000 and Tax rate = 40%. NOWC_{2012} was calculated in Part a.

Investor-supplied operating capital₂₀₁₂ = Net fixed assets₂₀₁₂ + NOWC_{2012}
 $= \$50,000 + \$53,725$
 $= \$103,725.$

WACC = 10% (given in problem)

$$\begin{aligned}\text{EVA} &= \text{EBIT}(1 - T) - (\text{Total investor-supplied capital})(\text{WACC}) \\ &= \$39,000(0.6) - (\$103,725)(0.10) \\ &= \$23,400 - \$10,372.50 \\ &= \$13,027.50.\end{aligned}$$

3-13 Working up the income statement you can calculate the new sales level would be \$12,681,482.

Sales	\$12,681,482	$S - 0.55S - \text{Deprec.} = \text{EBIT}$
Operating costs (excl. Deprec.)	6,974,815	$\$12,681,482 \times 0.55$
Depreciation	<u>880,000</u>	$\$800,000 \times 1.10$
EBIT	\$ 4,826,667	$\$4,166,667 + \$660,000$
Interest	<u>660,000</u>	$\$600,000 \times 1.10$
EBT	\$ 4,166,667	$\$2,500,000 / (1 - 0.4)$
Taxes (40%)	<u>1,666,667</u>	$\$4,166,667 \times 0.40$
Net income	<u>\$ 2,500,000</u>	

3-14 a.

	Common Stock		Retained Earnings	Total Stockholders' Equity
	Shares	Amount		
Balances, 12/31/11	100,000,000	\$260,000,000	\$1,374,000,000	\$1,634,000,000
2012 Net income			372,000,000	
Cash dividends			(146,000,000)	
Addition to RE				<u>226,000,000</u>
Balances, 12/31/12	<u>100,000,000</u>	<u>\$260,000,000</u>	<u>\$1,600,000,000</u>	<u>\$1,860,000,000</u>

The retained earnings balance on December 31, 2012 is \$1,600,000,000. To arrive at this statement, you must work up the retained earnings column because you don't know the 12/31/11 retained earnings balance.

b. \$1,600 million. (Look at retained earnings balance.)

c. Cash + Equivalents = \$15 million.

d. Total current liabilities = \$620 million.

3-15 a.

$$\begin{aligned}\text{Net operating working capital}_{2011} &= \text{Current assets} - (\text{Current liabilities} - \text{Notes payable}) \\ &= \$360,000,000 - (\$201,500,000 - \$51,500,000) \\ &= \$360,000,000 - \$150,000,000 = \$210,000,000.\end{aligned}$$

$$\begin{aligned}\text{Net operating working capital}_{2012} &= \$372,000,000 - (\$247,000,000 - \$67,000,000) \\ &= \$372,000,000 - \$180,000,000 = \$192,000,000.\end{aligned}$$

b.

$$\begin{aligned}\text{FCF}_{2012} &= [\text{EBIT}(1 - T) + \text{Deprec.}] - [\text{Cap. expend.} + \Delta \text{NOWC}] \\ &= [\$150,000,000(0.6) + \$30,000,000] - [\$80,000,000 - \$18,000,000] \\ &= [\$90,000,000 + \$30,000,000] - [\$80,000,000 - \$18,000,000] \\ &= \$120,000,000 - \$62,000,000 \\ &= \$58,000,000.\end{aligned}$$

Note that depreciation must be added to $\Delta \text{Net P\&E}$ to arrive at capital expenditures.

- c. The large increase in dividends for 2012 can most likely be attributed to a large increase in free cash flow from 2011 to 2012, since FCF represents the amount of cash available to be paid to stockholders after the company has made all investments in fixed assets, new products, and working capital necessary to sustain the business.

Comprehensive/Spreadsheet Problem

Note to Instructors:

The solution to this problem is not provided to students at the back of their text. Instructors can access the *Excel* file on the textbook's website or the Instructor's Resource CD.

3-16 Laiho Industries December 31 Balance Sheets (in thousands of dollars)

	2012	2011
<i>Assets</i>		
Cash	\$ 102,850	\$ 89,725
Accounts receivable	103,365	85,527
Inventories	38,444	34,982
Total current assets	\$ 244,659	\$ 210,234
Net fixed assets	67,165	42,436
Total assets	\$ 311,824	\$ 252,670
<i>Liabilities and equity</i>		
Accounts payable	\$ 30,761	\$ 23,109
Accruals	30,477	22,656
Notes payable	16,717	14,217
Total current liabilities	\$ 77,955	\$ 59,982
Long-term debt	76,264	63,914
Total liabilities	\$ 154,219	\$ 123,896
Common stock	100,000	90,000
Retained earnings	57,605	38,774
Total common equity	\$ 157,605	\$ 128,774
Total liabilities and equity	\$ 311,824	\$ 252,670

- a. The input information required for the problem is outlined in the "Key Input Data" section below. Using this data and the balance sheet above, we constructed the income statement shown below.

KEY INPUT DATA: Laiho Industries (in thousands of dollars)

Sales	\$455,150
EBITDA as a percentage of sales	15%
Depr. as a % of fixed assets	11%
Tax rate	40%
Interest expense	\$8,575
Dividend payout ratio	40%

Laiho Industries Income Statement
(in thousands of dollars)

	<u>2012</u>	
Sales	\$455,150	
Expenses excluding depreciation and amortization	<u>386,878</u>	Found after finding EBITDA
EBITDA	\$68,273	Found this first
Depreciation and amortization	<u>7,388</u>	
EBIT	\$60,884	
Interest expense	<u>8,575</u>	
EBT	\$52,309	
Taxes (40%)	<u>20,924</u>	
Net Income	<u><u>\$31,386</u></u>	
Common dividends	\$12,554	
Addition to retained earnings	\$18,831	

b. Statement of Stockholders' Equity
(in thousands of dollars)

	Common Stock	Retained Earnings	Total Stockholders' Equity
Balances, December 31, 2011	\$90,000	\$38,774	\$128,774
Common stock issue	10,000		10,000
2012 Net income		31,386	
Cash dividends		(12,554)	
Addition to retained earnings			18,831
Balances, December 31, 2012	<u><u>\$100,000</u></u>	<u><u>\$57,605</u></u>	<u><u>\$157,605</u></u>

Statement of Cash Flows
(in thousands of dollars)

Operating Activities

Net Income	\$31,386
Depreciation and amortization	7,388
Increase in accounts payable	7,652
Increase in accruals	7,821
Increase in accounts receivable	(17,838)
Increase in inventories	(3,462)
Net cash provided by operating activities	\$32,947

Investing Activities

Additions to property, plant, and equipment	(\$32,117)
Net cash used in investing activities	(\$32,117)

Financing Activities

Increase in notes payable	\$2,500
Increase in long-term debt	12,350
Increase in common stock	10,000
Payment of common dividends	(12,554)
Net cash provided by financing activities	\$12,295

Summary

Net increase/decrease in cash	\$13,125
Cash balance at the beginning of the year	89,725
Cash balance at the end of the year	\$102,850

C. Net Operating Working Capital (must be financed by external sources)

NOWC ₁₁ =	Current assets	–	(Current liabilities – Notes payable)
NOWC ₁₁ =	\$210,234	–	\$45,765
NOWC ₁₁ =	\$164,469		

NOWC ₁₂ =	Current assets	–	(Current liabilities – Notes payable)
NOWC ₁₂ =	\$244,659	–	\$61,238
NOWC ₁₂ =	\$183,421		

Free Cash Flow

FCF ₁₂ =	EBIT (1 – T)	+	Depreciation	–	Capital expenditures	+	Increase in NOWC
FCF ₁₂ =	\$36,531	+	\$7,388	–	\$32,117	+	\$18,952
FCF ₁₂ =	-\$7,150						

- d. An increase in the firm's dividend payout ratio would have no effect on its corporate taxes paid because dividends are paid with after-tax dollars. However, the company's shareholders would pay additional taxes on the additional dividends they would receive. As of 05/11, dividends are generally taxed at a maximum rate of 15%; however, this rate is scheduled to rise on January 1, 2013.

Integrated Case

3-17

D'Leon Inc., Part I

Financial Statements and Taxes

Donna Jamison, a 2007 graduate of the University of Florida with 4 years of banking experience, was recently brought in as assistant to the chairperson of the board of D'Leon Inc., a small food producer that operates in north Florida and whose specialty is high-quality pecan and other nut products sold in the snack foods market. D'Leon's president, Al Watkins, decided in 2011 to undertake a major expansion and to "go national" in competition with Frito-Lay, Eagle, and other major snack foods companies. Watkins believed that D'Leon's products were of higher quality than the competition's; that this quality differential would enable it to charge a premium price; and that the end result would be greatly increased sales, profits, and stock price.

The company doubled its plant capacity, opened new sales offices outside its home territory, and launched an expensive advertising campaign. D'Leon's results were not satisfactory, to put it mildly. Its board of directors, which consisted of its president, vice president, and major stockholders (who were all local businesspeople), was most upset when directors learned how the expansion was going. Unhappy suppliers were being paid late; and the bank was complaining about the deteriorating situation, threatening to cut off credit. As a result, Watkins was informed that changes would have to be made—and quickly; otherwise, he would be fired. Also, at the board's insistence, Donna Jamison was brought in and given the job of assistant to Fred Campo, a retired banker who was D'Leon's chairperson and largest stockholder. Campo agreed to give up a few of his golfing days and help nurse the company back to health, with Jamison's help.

Jamison began by gathering the financial statements and other data given in Tables IC 3.1, IC 3.2, IC 3.3, and IC 3.4. Assume that you are Jamison's assistant. You must help her answer the following questions for Campo. (Note: We will continue with this case in Chapter 4, and you will feel more comfortable with the analysis there. But answering these questions will help prepare you for Chapter 4. Provide clear explanations.)

Table IC 3.1. Balance Sheets

	<u>2012</u>	<u>2011</u>
<i>Assets</i>		
Cash	\$ 7,282	\$ 57,600
Accounts receivable	632,160	351,200
Inventories	<u>1,287,360</u>	<u>715,200</u>
Total current assets	\$1,926,802	\$1,124,000
Gross fixed assets	1,202,950	491,000
Less accumulated depreciation	<u>263,160</u>	<u>146,200</u>
Net fixed assets	<u>\$ 939,790</u>	<u>\$ 344,800</u>
Total assets	<u>\$2,866,592</u>	<u>\$1,468,800</u>
<i>Liabilities and Equity</i>		
Accounts payable	\$ 524,160	\$ 145,600
Notes payable	636,808	200,000
Accruals	<u>489,600</u>	<u>136,000</u>
Total current liabilities	\$1,650,568	\$ 481,600
Long-term debt	723,432	323,432
Common stock (100,000 shares)	460,000	460,000
Retained earnings	<u>32,592</u>	<u>203,768</u>
Total equity	<u>\$ 492,592</u>	<u>\$ 663,768</u>
Total liabilities and equity	<u>\$2,866,592</u>	<u>\$1,468,800</u>

Table IC 3.2. Income Statements

	<u>2012</u>	<u>2011</u>
Sales	\$6,034,000	\$3,432,000
Cost of goods sold	5,528,000	2,864,000
Other expenses	<u>519,988</u>	<u>358,672</u>
Total operating costs excluding depreciation and amortization	\$6,047,988	\$3,222,672
Depreciation and amortization	<u>116,960</u>	<u>18,900</u>
EBIT	(\$ 130,948)	\$ 190,428
Interest expense	<u>136,012</u>	<u>43,828</u>
EBT	(\$ 266,960)	\$ 146,600
Taxes (40%)	<u>(106,784)^a</u>	<u>58,640</u>
Net income	<u>(\$ 160,176)</u>	<u>\$ 87,960</u>
EPS	(\$ 1.602)	\$ 0.880
DPS	\$ 0.110	\$ 0.220
Book value per share	\$ 4.926	\$ 6.638
Stock price	\$ 2.25	\$ 8.50
Shares outstanding	100,000	100,000
Tax rate	40.00%	40.00%
Lease payments	\$ 40,000	\$ 40,000
Sinking fund payments	0	0

Note:

^a The firm had sufficient taxable income in 2010 and 2011 to obtain its full tax refund in 2012.

TABLE IC 3.3. Statement of Stockholders' Equity, 2012

	<u>Common Stock</u>		<u>Retained Earnings</u>	<u>Total Stockholders' Equity</u>
	<u>Shares</u>	<u>Amount</u>		
Balances, 12/31/11	100,000	\$460,000	\$203,768	\$663,768
2012 Net Income			(160,176)	
Cash Dividends			(11,000)	
Addition (Subtraction) to Retained Earnings				<u>(171,176)</u>
Balances, 12/31/12	<u>100,000</u>	<u>\$460,000</u>	<u>\$ 32,592</u>	<u>\$492,592</u>

Table IC 3.4. Statement of Cash Flows, 2012

Operating Activities

Net income	(\$160,176)
Depreciation and amortization	116,960
Increase in accounts payable	378,560
Increase in accruals	353,600
Increase in accounts receivable	(280,960)
Increase in inventories	<u>(572,160)</u>
Net cash provided by operating activities	<u>(\$164,176)</u>

Long-Term Investing Activities

Additions to property, plant, and equipment	(\$711,950)
Net cash used in investing activities	<u>(\$711,950)</u>

Financing Activities

Increase in notes payable	\$436,808
Increase in long-term debt	400,000
Payment of cash dividends	<u>(11,000)</u>
Net cash provided by financing activities	<u>\$825,808</u>

Summary

Net decrease in cash	(\$ 50,318)
Cash at beginning of year	<u>57,600</u>
Cash at end of year	<u>\$ 7,282</u>

A.	What effect did the expansion have on sales, after-tax operating income, net operating working capital (NOWC), and net income?
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Answer: [S3-1 through S3-10 provide background information. Then show S3-11 through S3-14 here.] Sales increased by \$2,602,000.

$$\begin{aligned}
 \text{AT operating income}_{12} &= \text{EBIT}(1 - \text{Tax rate}) \\
 &= -\$130,948(1 - 0.4) \\
 &= -\$130,948(0.6) \\
 &= -\$78,569.
 \end{aligned}$$

$$\text{AT operating income}_{11} = \$114,257.$$

$$\begin{aligned}\text{NOWC}_{12} &= \text{Current assets} - (\text{Current liabilities} - \text{Notes payable}) \\ &= \$1,926,802 - (\$1,650,568 - \$636,808) \\ &= \$913,042.\end{aligned}$$

$$\begin{aligned}\text{NOWC}_{11} &= \$1,124,000 - (\$481,600 - \$200,000) \\ &= \$842,400.\end{aligned}$$

$$\Delta\text{NOWC} = \$913,042 - \$842,400 = \$70,642.$$

Net operating working capital increased by \$70,642.

$$\text{NI}_{12} - \text{NI}_{11} = (\$160,176) - \$87,960 = (\$248,136).$$

There was a big drop, -\$248,136, in net income during 2012.

B. What effect did the company's expansion have on its free cash flow?

Answer: [Show S3-15 here.]

$$\begin{aligned}\text{FCF}_{12} &= [\text{EBIT}(1 - T) + \text{Deprec.}] - [\text{Capital expenditures} + \Delta\text{NOWC}] \\ &= [(-\$78,569) + \$116,960] - (\$711,950 + \$70,642) \\ &= \$38,391 - \$782,592 = -\$744,201.\end{aligned}$$

Free cash flow was -\$744,201 in 2012.

[Show S3-16 through S3-18 here.] These slides discuss two performance measures for evaluating managers. Financial statements reflect historical values, while these measures reflect market values. We don't have enough information to calculate D'Leon's EVA; however, we can calculate its MVA using both 2011 and 2012 data.

$$\begin{aligned}\text{MVA}_{12} &= (\$2.25 \times 100,000) - \$492,592 \\ &= -\$267,592.\end{aligned}$$

$$\begin{aligned}\text{MVA}_{11} &= (\$8.50 \times 100,000) - \$663,768 \\ &= \$186,232.\end{aligned}$$

The MVA calculations indicate that this expansion has destroyed shareholder wealth. (We assumed that no other market forces have caused the firm's stock price to decline during this time.)

- C. D'Leon purchases materials on 30-day terms, meaning that it is supposed to pay for purchases within 30 days of receipt. Judging from its 2012 balance sheet, do you think that D'Leon pays suppliers on time? Explain, including what problems might occur if suppliers are not paid in a timely manner.

Answer: [Show S3-19 here.] D'Leon probably does not pay its suppliers on time judging from the fact that its accounts payables balance increased by 260% from the past year, while sales increased by only 76%. Company records would show if they paid suppliers on time. By not paying suppliers on time, D'Leon is straining its relationship with them. If D'Leon continues to be late, eventually suppliers will cut the company off and put it into bankruptcy.

- D. D'Leon spends money for labor, materials, and fixed assets (depreciation) to make products—and spends still more money to sell those products. Then the firm makes sales that result in receivables, which eventually result in cash inflows. Does it appear that D'Leon's sales price exceeds its costs per unit sold? How does this affect the cash balance?

Answer: [Show S3-20 here.] It does not appear the D'Leon's sales price exceeds its costs per unit sold as indicated in the income statement. The company is spending more cash than it is taking in and, as a result, the cash account balance has decreased.

E. Suppose D'Leon's sales manager told the sales staff to start offering 60-day credit terms rather than the 30-day terms now being offered. D'Leon's competitors react by offering similar terms, so sales remain constant. What effect would this have on the cash account? How would the cash account be affected if sales doubled as a result of the credit policy change?

Answer: [Show S3-21 here.] By extending the sales credit terms, it would take longer for D'Leon to receive its money—its cash account would decrease and its accounts receivable would build up. Because collections would slow, accounts payable would build up too.

Inventory would have to be built up and possibly fixed assets too before sales could be increased. Accounts receivable would rise and cash would decline. Much later, when collections increased cash would rise. D'Leon would probably need to borrow or sell stock to finance the expansion.

F. Can you imagine a situation in which the sales price exceeds the cost of producing and selling a unit of output, yet a dramatic increase in sales volume causes the cash balance to decline? Explain.

Answer: This situation is likely to occur as suggested in the second part of the answer to Question E.

G. Did D'Leon finance its expansion program with internally generated funds (additions to retained earnings plus depreciation) or with external capital? How does the choice of financing affect the company's financial strength?

Answer: [Show S3-22 here.] D'Leon financed its expansion with external capital rather than internally generated funds. In particular, D'Leon issued long-term debt rather than common stock, which reduced its financial strength and flexibility.

H. Refer to Tables IC 3.2 and IC 3.4. Suppose D'Leon broke even in 2012 in the sense that sales revenues equaled total operating costs plus interest charges. Would the asset expansion have caused the company to experience a cash shortage that required it to raise external capital? Explain.

Answer: [Show S3-23 here.] Even if D'Leon had broken even in 2012, the firm would have had to finance an increase in assets.

I. If D'Leon starts depreciating fixed assets over 7 years rather than 10 years, would that affect (1) the physical stock of assets, (2) the balance sheet account for fixed assets, (3) the company's reported net income, and (4) the company's cash position? Assume that the same depreciation method is used for stockholder reporting and for tax calculations and that the accounting change has no effect on assets' physical lives.

Answer: [Show S3-24 here.] This would have no effect on the physical stock of the assets; however, the balance sheet account for net fixed assets would decline because accumulated depreciation would increase due to depreciating assets over 7 years versus 10 years. Because depreciation expense would increase, net income would decline. Finally, the firm's cash position would increase, because its tax payments would be reduced.

J. Explain how earnings per share, dividends per share, and book value per share are calculated and what they mean. Why does the market price per share not equal the book value per share?

Answer: Net income divided by shares outstanding equals earnings per share. Dividends divided by shares outstanding equals dividends per share, while book value per share is calculated as total common equity divided by shares outstanding.

Market price per share does not equal book value per share. The market value of a stock reflects future profitability, while book value per share represents historical cost.

K. Explain briefly the tax treatment of (1) interest and dividends paid, (2) interest earned and dividends received, (3) capital gains, and (4) tax loss carry-backs and carry-forwards. How might each of these items affect D'Leon's taxes?

Answer: [Show S3-25 through S3-30 here.] For a business, interest paid is considered an expense and is paid out of pre-tax income. Therefore, interest paid is tax deductible for businesses. For individuals, interest paid is generally not tax deductible, with the notable exception being limited tax deductibility on home mortgage interest. Dividends paid by a business are paid out of after-tax income. Interest earned, whether by a business or individual, is taxable income and subject to standard income taxes, except for some state and local government debt interest. Dividends received are taxed at the capital gains rate for individuals (this may change after 2012), creating a "double taxation" of dividends (although by not as much as it could be if dividends were taxed as ordinary income). A portion of dividends received by corporations is tax excludable, in order to avoid "triple taxation."

Capital gains are defined as the profits from the sale of an asset not used in the normal course of business. For individuals, capital gains on assets are taxed as ordinary income if held for less than a year, and at the capital gains rate if held for more than a year. Corporations face somewhat different rules. Capital gains for corporations are taxed as ordinary income. Tax loss carry-back and carry-forward provisions allow businesses to use a loss in the current year to offset profits in prior years (2 years), and if losses haven't been completely offset by past profits they can be carried forward to offset profits in the future (20 years).

In 2012 D'Leon paid interest expense of \$136,012 which was used to further lower its tax liability resulting in a tax credit of \$106,784 for a net loss of -\$160,176. However, because of the tax loss carry-back and carry-forward provision D'Leon was able to obtain its full tax refund in 2012 (as the firm had sufficient taxable income in 2010 and 2011).