

part

2

# Financial Analysis and Planning

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CHAPTER 2  
Review of Accounting

CHAPTER 3  
Financial Analysis

CHAPTER 4  
Financial Forecasting

CHAPTER 5  
Operating and Financial Leverage

## news makers

In this section we address the topics of financial analysis. Problems arise in a firm if the financial statements are not accurate, are manipulated, or do not meet generally accepted accounting principles (GAAP). The concept of corporate governance covers the broad area of how a corporate board of directors operates the company in accordance with shareholder goals. A board with good corporate governance practices has transparency of accounting statements, has good audit committee processes, and is responsive to shareholder proposals that might benefit the company. As institutional investors have become larger players in the elections of directors for corporate boards, they have also become more active in holding these boards to good practices of corporate governance.

The California Public Employees Retirement System (CalPERS) is one such activist pension fund, and with over \$250 billion in assets it is also the largest public pension fund in the United States. Dennis Johnson is the director of corporate governance for CalPERS and his major role is to work with companies that are on the CalPERS focus list to help them improve their corporate governance practices.

The focus list targets those companies that are underperforming and in CalPERS's view could use some improvements in their corporate governance practices. His team of analysts also determines which companies are added to or subtracted from the focus list.

Mr. Johnson has presented CalPERS governance issues to companies such as United-Health Group, Coca-Cola, Schering Plough Corp., Home Depot, and Dollar Tree, with the goal of convincing them that by adopting CalPERS ideas, they will improve their performance as well as give their shareholders more control over the issues that are brought before the board of directors and stockholders. In some cases Mr. Johnson has been successful in convincing companies to alter their practices and in others not as successful. If there is no successful resolution to the conflicts between shareholders and a board of directors, then CalPERS does have the ability to challenge the election of directors. If he can get other institutional investors to join CalPERS, he becomes very influential.

Dennis Johnson often has the delicate task of convincing members of management to do what they don't want to do. This takes a persuasive personality and an

understanding of how the markets operate. Before joining CalPERS, Mr. Johnson worked as a managing director for Citigroup Global Market. He has over 25 years of experience in the capital markets area. He graduated from the Virginia Military Institute with a BA in Economics and earned a Master of Science in Finance at Virginia Commonwealth University. He is a Chartered Financial Analyst (CFA) and member of the CFA Institute. In April 2008 he was elected chair of the Council of Institutional Investors, a nonprofit association of public, union, and corporate pension funds. The combined assets of this group exceeds \$3 trillion, so you can imagine the respect his colleagues have for CalPERS and Dennis Johnson. You can also imagine that corporate boards will be paying more attention to him when he comes knocking on their doors.



*Dennis Johnson—  
California Public  
Employees  
Retirement  
System  
Courtesy of CalPERS  
Office of Public Affairs*

# 2

## Review of Accounting

### LEARNING OBJECTIVES

- L01** The income statement measures profitability.
- L02** The price-earnings ratio indicates the relative valuation of earnings.
- L03** The balance sheet shows assets and the financing of those assets with debt and equity.
- L04** The statement of cash flows indicates the change in the cash position of the firm.
- L05** Depreciation provides a tax reduction benefit that increases cash flow.

**B**rinker International is one of the leading restaurant chains in the United States, and its holdings include Chili's Grill and Bar, Romano's Macaroni Grill, Maggiano's Little Italy, and On the Border Mexican Grill and Cantina. (Those fajitas taste great!)

The emphasis at Brinker International is on quality food at reasonable prices. No offense intended for Jack in the Box or Burger King, where the service and food are a little less predictable.

The firm has increased its earnings per share from \$.37 in 1997 to \$1.75 in 2007. Also, its operating margin of 13.0 percent is only exceeded by Applebee's International (15.5 percent) for firms in the full-service food industry. Brinker's ticker symbol on the New York Stock Exchange is appropriately designated as EAT.

Without accounting data tracking these important numbers, financial managers, investors, and bankers would be flying blind. The same can be said for the

data of IBM, General Motors, Microsoft, or any other major U.S. corporation.

The language of finance flows logically from accounting. To ensure that the student is adequately prepared to study significant financial concepts, we must lock in the preparatory material from the accounting area. Much of the early frustration suffered by students who have difficulty with finance can be overcome if such concepts as retained earnings, shareholders' equity, depreciation, and historical/replacement cost accounting are brought into focus.

In this chapter, we examine the three basic types of financial statements—the income statement, the balance sheet, and the statement of cash flows—with particular attention paid to the interrelationships among these three measurement devices. As special preparation for the finance student, we briefly examine income tax considerations affecting financial decisions.

The **income statement** is the major device for measuring the profitability of a firm over a period of time. An example of the income statement for the Kramer Corporation is presented in Table 2–1.

## Income Statement

<b>KRAMER CORPORATION</b>	
<b>Income Statement</b>	
<b>For the Year Ended December 31, 2009</b>	
1. Sales . . . . .	\$2,000,000
2. Cost of goods sold . . . . .	1,500,000
3. Gross profits . . . . .	500,000
4. Selling and administrative expense . . . . .	270,000
5. Depreciation expense . . . . .	50,000
6. Operating profit (EBIT)* . . . . .	180,000
7. Interest expense . . . . .	20,000
8. Earnings before taxes (EBT) . . . . .	160,000
9. Taxes . . . . .	49,500
10. Earnings after taxes (EAT) . . . . .	110,500
11. Preferred stock dividends . . . . .	10,500
12. Earnings available to common stockholders . . . . .	<b>\$ 100,000</b>
13. Common shares outstanding . . . . .	100,000
14. Earnings per share . . . . .	\$1.00

\*Earnings before interest and taxes.

**Table 2–1**

First, note that the income statement covers a defined period of time, whether it is one month, three months, or a year. The statement is presented in a stair-step or progressive fashion so we can examine the profit or loss after each type of expense item is deducted.

We start with sales and deduct cost of goods sold to arrive at gross profit. The \$500,000 thus represents the difference between the cost of purchased or manufactured goods and the sales price. We then subtract selling and administrative expense and depreciation from gross profit to determine our profit (or loss) purely from operations of \$180,000. It is possible for a company to enjoy a high gross profit margin (25–50 percent) but a relatively low operating profit because of heavy expenses incurred in marketing the product and managing the company.<sup>1</sup>

Having obtained operating profit (essentially a measure of how efficient management is in generating revenues and controlling expenses), we now adjust for revenues and expenses not related to operational matters. In this case we pay \$20,000 in interest and arrive at earnings before taxes of \$160,000. The tax payments are \$49,500, leaving aftertax income of \$110,500.

<sup>1</sup>Depreciation was not treated as part of goods sold in this instance, but rather as a separate expense. All or part of depreciation may be treated as part of cost of goods sold, depending on the circumstances.

### Return to Capital

Before proceeding further, we should note that there are three primary sources of capital—the bondholders, who received \$20,000 in interest (item 7); the preferred stockholders, who receive \$10,500 in dividends (item 11); and the common stockholders. After the \$10,500 dividend has been paid to the preferred stockholders, there will be \$100,000 in earnings available to the common stockholders (item 12). In computing **earnings per share**, we must interpret this in terms of the number of shares outstanding. As indicated in item 13, there are 100,000 shares of common stock outstanding, so the \$100,000 of earnings available to the common stockholders may be translated into earnings per share of \$1. Common stockholders are sensitive to the number of shares outstanding—the more shares, the lower the earnings per share. Before any new shares are issued, the financial manager must be sure the cash received from the sale will eventually generate sufficient earnings to avoid reducing earnings per share.

The \$100,000 of profit (\$1 earnings per share) may be paid out to the common stockholders in the form of dividends or retained in the company for subsequent reinvestment. The reinvested funds theoretically belong to the common stockholders, who hope they will provide future earnings and dividends. In the case of the Kramer Corporation, we assume \$50,000 in dividends will be paid out to the common stockholders, with the balance retained in the corporation for their benefit. A short supplement to the income statement, a statement of retained earnings (Table 2–2), usually indicates the disposition of earnings.<sup>2</sup>

Table 2–2

STATEMENT OF RETAINED EARNINGS	
For the Year Ended December 31, 2009	
Retained earnings, balance, January 1, 2009 . . . . .	\$250,000
Add: Earnings available to common stockholders, 2009 . . . . .	100,000
Deduct: Cash dividends declared in 2009 . . . . .	50,000
Retained earnings, balance, December 31, 2009 . . . . .	300,000

We see that a net value of \$50,000 has been added to previously accumulated earnings of \$250,000 to arrive at \$300,000.

### Price-Earnings Ratio Applied to Earnings per Share

A concept utilized throughout the text is the **price-earnings ratio**. This refers to the multiplier applied to earnings per share to determine current value of the common stock. In the case of the Kramer Corporation, earnings per share were \$1. If the firm had a price-earnings ratio of 20, the market value of each share would be \$20 ( $\$1 \times 20$ ). The price-earnings ratio (or P/E ratio, as it is commonly called) is influenced by the earnings and the sales growth of the firm, the risk (or volatility in performance), the debt-equity structure of the firm, the dividend payment policy, the quality of management, and

<sup>2</sup>The statement may also indicate any adjustments to previously reported income as well as any restrictions on cash dividends.

a number of other factors. Since companies have various levels of earnings per share, price-earnings ratios allow us to compare the relative market value of many companies based on \$1 of earnings per share.

The P/E ratio indicates expectations about the future of a company. Firms expected to provide returns greater than those for the market in general with equal or less risk often have P/E ratios higher than the market P/E ratio. Expectations of returns and P/E ratios do change over time, as Table 2–3 illustrates.

Corporation	Industry	Jan. 2 1990	Jan. 2 1994	Jan. 2 1998	Jan. 2 2001	Jan. 2 2006	Jan. 2 2008
Bank of America	Banking	11	8	19	13	12	10
Cisco	Networking	25	24	37	91	23	27
General Motors	Automobiles	7	8	13	6	40	9
Intel	Integrated circuits	12	11	24	20	21	26
Johnson & Johnson	Pharmaceuticals	17	15	28	32	22	17
McDonald's	Restaurants	14	17	24	23	14	16
Southwest Air	Airlines	15	23	16	31	31	25
Textron	Diversified	7	11	27	29	19	20
Wal-Mart	Retail	24	21	31	38	18	14
Standard & Poor's (500 Stock Index)		15	20	23	26	24	18

**Table 2–3**  
Price-earnings ratios for  
selected U.S. companies

Price-earnings ratios can be confusing. When a firm’s earnings are dropping rapidly or perhaps even approaching zero, its stock price, though declining too, may not match the magnitude of the falloff in earnings. This process can give the appearance of an increasing P/E ratio under adversity. This happens from time to time in the steel, oil, and other cyclical industries. For example, in 2001 Cisco Systems (as shown in Table 2–3) was trading at a P/E ratio of 91 because of cyclically low earnings.

**Limitations of the Income Statement**

The economist defines income as the change in real worth that occurs between the beginning and the end of a specified time period. To the economist an increase in the value of a firm’s land as a result of a new airport being built on adjacent property is an increase in the real worth of the firm and therefore represents income. Similarly, the elimination of a competitor might also increase the firm’s real worth and therefore result in income in an economic sense. The accountant does not ordinarily employ such broad definitions. Accounting values are established primarily by actual transactions, and income that is gained or lost during a given period is a function of verifiable transactions. While the potential sales price of a firm’s property may go from \$100,000 to \$200,000 as a result of new developments in the area, stockholders may perceive only a much smaller gain or loss from actual day-to-day operations.

Also, as will be pointed out in Chapter 3, “Financial Analysis,” there is some flexibility in the reporting of transactions, so similar events may result in differing measurements of income at the end of a time period. The intent of this section is not to criticize the accounting profession, for it is certainly among the best-organized,

trained, and paid professions, but to alert students to imperfections already well recognized within the profession.

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## Balance Sheet

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The **balance sheet** indicates what the firm owns and how these assets are financed in the form of liabilities or ownership interest. While the income statement purports to show the profitability of the firm, the balance sheet delineates the firm's holdings and obligations. Together, these statements are intended to answer two questions: How much did the firm make or lose, and what is a measure of its worth? A balance sheet for the Kramer Corporation is presented in Table 2–4 on page 31.

Note that the balance sheet is a picture of the firm at a point in time—in this case December 31, 2009. It does not purport to represent the result of transactions for a specific month, quarter, or year, but rather is a cumulative chronicle of all transactions that have affected the corporation since its inception. In contrast, the income statement measures results only over a short, quantifiable period. Generally, balance sheet items are stated on an original cost basis rather than at current market value.

### Interpretation of Balance Sheet Items

Asset accounts are listed in order of **liquidity** (convertibility to cash). The first category of *current assets* covers items that may be converted to cash within one year (or within the normal operating cycle of the firm). A few items are worthy of mention. *Marketable securities* are temporary investments of excess cash. The value shown in the account is the fair market value. *Accounts receivable* include an allowance for bad debts (based on historical evidence) to determine their anticipated collection value. *Inventory* may be in the form of raw material, goods in process, or finished goods, while *prepaid expenses* represent future expense items that have already been paid, such as insurance premiums or rent.

*Investments*, unlike marketable securities, represent a longer-term commitment of funds (at least one year). They may include stocks, bonds, or investments in other corporations. Frequently, the account will contain stock in companies that the firm is acquiring.

*Plant and equipment* is carried at original cost minus accumulated depreciation. Accumulated depreciation is not to be confused with the depreciation expense item indicated in the income statement in Table 2–1. Accumulated depreciation is the sum of all past and present depreciation charges on currently owned assets, while depreciation expense is the current year's charge. If we subtract accumulated depreciation from the original value, the balance (**\$500,000**) tells us how much of the original cost has not been expensed in the form of depreciation.

Total assets are financed through either liabilities or stockholders' equity. Liabilities represent financial obligations of the firm and move from current liabilities (due within one year) to longer-term obligations, such as bonds payable in 2015.

Among the short-term obligations, *accounts payable* represent amounts owed on open account to suppliers, while *notes payable* are generally short-term signed obligations to the banker or other creditors. An *accrued expense* is generated when a service has been provided or an obligation incurred and payment has not yet taken

<b>KRAMER CORPORATION</b>		
<b>Statement of Financial Position (Balance Sheet)</b>		
<b>December 31, 2009</b>		
<b>Assets</b>		
Current assets:		
Cash . . . . .		\$ 40,000
Marketable securities . . . . .		10,000
Accounts receivable . . . . .	\$ 220,000	
Less: Allowance for bad debts . . . . .	<u>20,000</u>	200,000
Inventory . . . . .		180,000
Prepaid expenses . . . . .		<u>20,000</u>
Total current assets . . . . .		450,000
Other assets:		
Investments . . . . .		50,000
Fixed assets:		
Plant and equipment, original cost . . . . .	1,100,000	
Less: Accumulated depreciation . . . . .	<u>600,000</u>	
Net plant and equipment . . . . .		<u>500,000</u>
Total assets . . . . .		<u>\$1,000,000</u>
<b>Liabilities and Stockholders' Equity</b>		
Current liabilities:		
Accounts payable . . . . .		\$ 80,000
Notes payable . . . . .		100,000
Accrued expenses . . . . .		<u>30,000</u>
Total current liabilities . . . . .		210,000
Long-term liabilities:		
Bonds payable, 2015 . . . . .		<u>90,000</u>
Total liabilities . . . . .		300,000
Stockholders' equity:		
Preferred stock, \$100 par value, 500 shares . . . . .		50,000
Common stock, \$1 par value, 100,000 shares . . . . .		100,000
Capital paid in excess of par (common stock) . . . . .		<u>250,000</u>
Retained earnings . . . . .		300,000
Total stockholders' equity . . . . .		<u>700,000</u>
Total liabilities and stockholders' equity . . . . .		<u>\$1,000,000</u>

Table 2–4

place. The firm may owe workers additional wages for services provided or the government taxes on earned income.

In the balance sheet we see the \$1,000,000 in total assets of the Kramer Corporation was financed by \$300,000 in debt and \$700,000 in the form of stockholders' equity. Stockholders' equity represents the total contribution and ownership interest of preferred and common stockholders.

The *preferred stock* investment position is \$50,000, based on 500 shares at \$100 par. In the case of *common stock*, 100,000 shares have been issued at a total par value



of \$100,000, plus an extra \$250,000 in *capital paid in excess of par* for a sum of \$350,000. We can assume that the 100,000 shares were originally sold at \$3.50 each as shown below.

100,000 shares	\$1.00	Par value . . . . .	\$100,000
	2.50	Capital paid in excess of par . . . . .	250,000
	\$3.50	Price per share . . . . .	\$350,000

Finally, there is \$300,000 in *retained earnings* in Table 2–4. This value, previously determined in the statement of retained earnings (Table 2–2), represents the firm’s cumulative earnings since inception minus dividends and any other adjustments.

### Concept of Net Worth

Stockholders’ equity minus the preferred stock component represents the **net worth**, or **book value**, of the firm. There is some logic to the approach. If you take everything that the firm owns and subtract the debt and preferred stock obligation,<sup>3</sup> the remainder belongs to the common stockholder and represents net worth. In the case of the Kramer Corporation, using data from Table 2–4, we show:

Total assets . . . . .	\$1,000,000
Total liabilities . . . . .	– 300,000
Stockholders’ equity . . . . .	700,000
Preferred stock obligation . . . . .	– 50,000
Net worth assigned to common . . . . .	\$ 650,000
Common shares outstanding . . . . .	100,000
Net worth, or book value, per share . . . . .	\$ 6.50

The original cost per share was \$3.50; the net worth, or book value, per share is \$6.50; and the market value (based on an assumed P/E ratio of 15 and earnings per share of \$1) is \$15. This last value is of primary concern to the financial manager, security analyst, and stockholders.

### Limitations of the Balance Sheet

Lest we attribute too much significance to the balance sheet, we need to examine some of the underlying concepts supporting its construction. Most of the values on the balance sheet are stated on a historical or original cost basis. This may be particularly troublesome in the case of plant and equipment and inventory, which may now be worth two or three times the original cost or—from a negative viewpoint—may require many times the original cost for replacement.

The accounting profession has been grappling with this problem for decades, and the discussion becomes particularly intense each time inflation rears its ugly head. In

<sup>3</sup>An additional discussion of preferred stock is presented in Chapter 17, “Common and Preferred Stock Financing.” Preferred stock represents neither a debt claim nor an ownership interest in the firm. It is a hybrid, or intermediate, type of security.

October 1979 the Financial Accounting Standards Board (FASB) issued a ruling that required large companies to disclose inflation-adjusted accounting data in their annual reports. This information was to be disclosed in addition to the traditional historical cost data and could show up in footnotes or in a separate full-fledged financial section with detailed explanations. However, with the decline in the inflation rate to historically low levels, the standard is no longer in force, and the inclusion of inflation-adjusted data is no longer required in any form. If a company wishes to adjust its balance sheet or income statement data for inflation, it is purely a voluntary act.

Table 2–5 looks at large disparities between market value per share and historical book value per share for a number of publicly traded companies in January 2008. Besides asset valuation, a number of other factors may explain the wide differences between per share values, such as industry outlook, growth prospects, quality of management, and risk-return expectations.

Corporation	Market Value per Share	Book Value per Share	Ratio of Market Value to Book Value
Pitney Bowes	\$ 44.67	\$ 3.50	12.76
Genentech	78.41	10.30	7.61
PepsiCo	68.03	9.84	6.91
UPS	75.86	14.49	5.23
eBay	34.10	8.50	4.01
Lee Enterprises	17.37	21.59	.80
Photronics Inc.	11.44	14.41	.79
Coachman Ind.	6.60	10.20	.64
Standard Pacific Corp.	10.03	27.39	.37
Cost Plus Inc.	4.00	13.20	.30

**Table 2–5**

Comparison of market value to book value per share in January 2008

The accounting profession designates the statement of cash flows as the third required financial statement, along with the balance sheet and income statement. Referred to as *Statement of Financial Accounting Standards (SFAS) No. 95*, it replaces the old statement of changes in financial position.

The purpose of the **statement of cash flows** is to emphasize the critical nature of cash flow to the operations of the firm. According to accountants, cash flow represents cash or cash equivalent items that can easily be converted into cash within 90 days (such as a money market fund).

The income statement and balance sheet that we have studied thus far are normally based on the accrual method of accounting, in which revenues and expenses are recognized as they occur, rather than when cash actually changes hands. For example, a \$100,000 credit sale may be made in December 2008 and shown as revenue for that year—despite the fact the cash payment will not be received until March 2009. When the actual payment is finally received under accrual accounting, no revenue is recognized (it has already been accounted for previously). The primary advantage of accrual accounting is that it allows us to match revenues and expenses in the period in which

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## Statement of Cash Flows

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they occur in order to appropriately measure profit; but a disadvantage is that adequate attention is not directed to the actual cash flow position of the firm.

Say a firm made a \$1 million profit on a transaction but will not receive the actual cash payment for two years. Or perhaps the \$1 million profit is in cash, but the firm increased its asset purchases by \$3 million (a new building). If you merely read the income statement, you might assume the firm is in a strong \$1 million cash position; but if you go beyond the income statement to cash flow considerations, you would observe the firm is \$2 million short of funds for the period.

As a last example, a firm might show a \$100,000 loss on the income statement, but if there were a depreciation expense write-off of \$150,000, the firm would actually have \$50,000 in cash. Since depreciation is a noncash deduction, the \$150,000 deduction in the income statement for depreciation can be added back to net income to determine cash flow.

The statement of cash flows addresses these issues by translating income statement and balance sheet data into cash flow information. A corporation that has \$1 million in accrual-based accounting profits can determine whether it can afford to pay a cash dividend to stockholders, buy new equipment, or undertake new projects. In the dot .com era of the last decade, cash flow analysis has taken on a very special meaning.

### Developing an Actual Statement

We shall use the information previously provided for the Kramer Corporation in this chapter to illustrate how the statement of cash flows is developed.

But first, let's identify the three primary sections of the statement of cash flows:

1. Cash flows from operating activities.
2. Cash flows from investing activities.
3. Cash flows from financing activities.

After each of these sections is completed, the results are added together to compute the net increase or decrease in cash flow for the corporation. An example of the process is shown in Figure 2–1 on the next page. Let's begin with cash flows from operating activities.

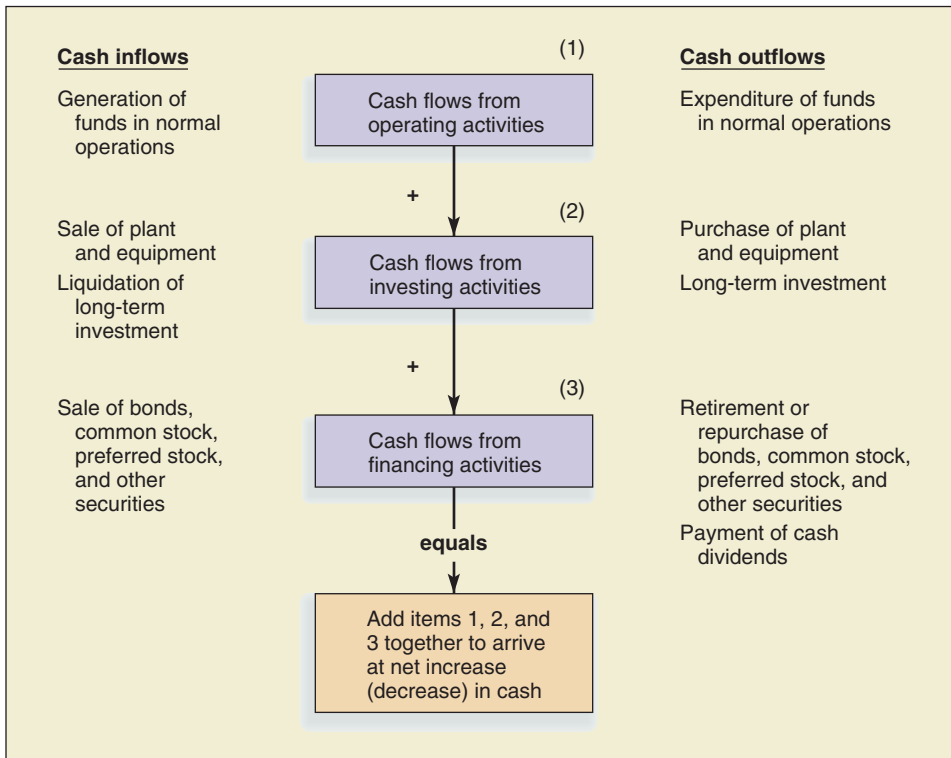
### Determining Cash Flows from Operating Activities

Basically, we are going to translate *income from operations* from an accrual to a cash basis. According to *SFAS No. 95*, there are two ways to accomplish this objective. First, the firm may use a *direct method*, in which every item on the income statement is adjusted from accrual accounting to cash accounting. This is a tedious process, in which all sales must be adjusted to cash sales, all purchases must be adjusted to cash purchases, and so on. A more popular method is the *indirect method*, in which net income represents the starting point and then adjustments are made to convert net income to cash flows from operations.<sup>4</sup> This is the method we will use. Regardless of whether the direct or indirect method is used, the same final answer will be derived.

We follow these procedures in computing **cash flows from operating activities** using the indirect method.<sup>5</sup> These steps are illustrated in Figure 2–2 and are described at the top of page 36.

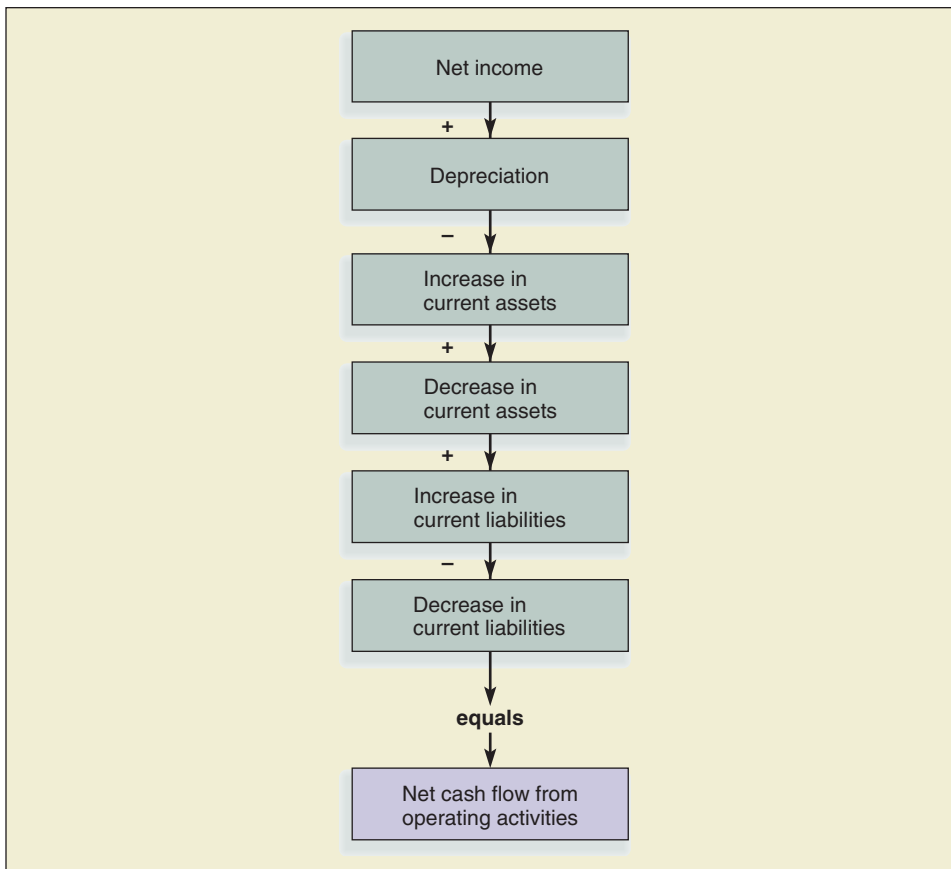
<sup>4</sup>The indirect method is similar to procedures used to construct the old sources and uses of funds statement.

<sup>5</sup>In addition to the items mentioned, we may need to recognize the gains or losses on the sale of operating and nonoperating assets. We exclude these for ease of analysis.



**Figure 2-1**

Illustration of concepts behind the statement of cash flows



**Figure 2-2**

Steps in computing net cash flows from operating activities using the indirect method

- Start with net income.
- Recognize that depreciation is a noncash deduction in computing net income and should be added back to net income to increase the cash balance.
- Recognize that increases in current assets are a use of funds and *reduce* the cash balance (indirectly)—as an example, the firm spends more funds on inventory.
- Recognize that decreases in current assets are a source of funds and *increase* the cash balance (indirectly)—that is, the firm reduces funds tied up in inventory.
- Recognize that increases in current liabilities are a source of funds and increase the cash balance (indirectly)—the firm gets more funds from creditors.
- Recognize that decreases in current liabilities are a use of funds and *decrease* the cash balance (indirectly)—that is, the firm pays off creditors.

We will follow these procedures for the Kramer Corporation, drawing primarily on material from Table 2–1 (the previously presented income statement) and from Table 2–6 at the top of page 37 (which shows balance sheet data for the most recent two years).

The analysis is presented in Table 2–7. We begin with net income (earnings after taxes) of \$110,500 and add back depreciation of \$50,000. We then show that increases in current assets (accounts receivable and inventory) reduce funds and decreases in current assets (prepaid expenses) increase funds. Also, we show increases in current liabilities (accounts payable) as an addition to funds and decreases in current liabilities (accrued expenses) as a reduction of funds.

We see in Table 2–7 that the firm generated \$150,500 in cash flows from operating activities. Of some significance is that this figure is \$40,000 larger than the net income figure shown on the first line of the table (\$110,500). A firm with little depreciation and a massive buildup of inventory might show lower cash flow than reported net income. Once cash flows from operating activities are determined, management has a better feel for what can be allocated to investing or financing needs (such as paying cash dividends).

### Determining Cash Flows from Investing Activities

**Cash flows from investing activities** represent the second section in the statement of cash flows. The section relates to long-term investment activities in other issuers' securities or, more importantly, in plant and equipment. Increasing investments represent a *use* of funds, and decreasing investments represent a *source* of funds.

Examining Table 2–6 for the Kramer Corporation, we show the information in Table 2–8 at the top of page 38.

### Determining Cash Flows from Financing Activities

In the third section of the statement of cash flows, **cash flows from financing activities**, we show the effects of financing activities on the corporation in Table 2–9 toward the top of page 38. Financing activities apply to the sale or retirement of bonds, common stock, preferred stock, and other corporate securities. Also, the payment of cash dividends is considered a financing activity. The sale of the firm's securities represents a *source* of funds, and the retirement or repurchase of such securities represents a *use* of funds. The payment of dividends also represents a *use* of funds.

**Table 2–6**

<b>KRAMER CORPORATION</b>		
<b>Comparative Balance Sheets</b>		
	Year-End 2008	Year-End 2009
<b>Assets</b>		
Current assets:		
Cash .....	\$ 30,000	\$ 40,000
Marketable securities .....	10,000	10,000
Accounts receivable (net) .....	170,000	200,000
Inventory .....	160,000	180,000
Prepaid expenses .....	30,000	20,000
Total current assets .....	<u>400,000</u>	<u>450,000</u>
Investments (long-term) .....	20,000	50,000
Plant and equipment .....	\$1,000,000	1,100,000
Less: Accumulated depreciation .....	550,000	600,000
Net plant and equipment .....	<u>450,000</u>	<u>500,000</u>
Total assets .....	<u>\$ 870,000</u>	<u>\$1,000,000</u>
<b>Liabilities and Stockholders' Equity</b>		
Current liabilities:		
Accounts payable .....	\$ 45,000	\$ 80,000
Notes payable .....	100,000	100,000
Accrued expenses .....	35,000	30,000
Total current liabilities .....	<u>180,000</u>	<u>210,000</u>
Long-term liabilities:		
Bonds payable, 2017 .....	40,000	90,000
Total liabilities .....	<u>220,000</u>	<u>300,000</u>
Stockholders' equity:		
Preferred stock, \$100 par value .....	50,000	50,000
Common stock, \$1 par value .....	100,000	100,000
Capital paid in excess of par .....	250,000	250,000
Retained earnings .....	250,000	300,000
Total stockholders' equity .....	<u>650,000</u>	<u>700,000</u>
Total liabilities and stockholders' equity .....	<u>\$ 870,000</u>	<u>\$1,000,000</u>

**Table 2–7**

Net income (earnings after taxes) (Table 2–1) .....	\$110,500
Adjustments to determine cash flow from operating activities:	
Add back depreciation (Table 2–1) .....	50,000
Increase in accounts receivable (Table 2–6) .....	(30,000)
Increase in inventory (Table 2–6) .....	(20,000)
Decrease in prepaid expenses (Table 2–6) .....	10,000
Increase in accounts payable (Table 2–6) .....	35,000
Decrease in accrued expenses (Table 2–6) .....	(5,000)
Total adjustments .....	<u>40,000</u>
Net cash flows from operating activities .....	<u>\$150,500</u>

Cash flows from  
operating activities

**Table 2–8**

Cash flows from  
investing activities

Increase in investments (long-term securities) (Table 2–6) . . . . .	(\$ 30,000)
Increase in plant and equipment (Table 2–6) . . . . .	<u>(100,000)</u>
Net cash flows from investing activities . . . . .	<u>(\$130,000)</u>

In Table 2–9, the financing activities of the Kramer Corporation are shown using data from Tables 2–1, 2–2, and 2–6.

**Table 2–9**

Cash flows from  
financing activities

Increase in bonds payable (Table 2–6) . . . . .	\$ 50,000
Preferred stock dividends paid (Table 2–1) . . . . .	(10,500)
Common stock dividends paid (Table 2–2) . . . . .	<u>(50,000)</u>
Net cash flows from financing activities . . . . .	<u>(\$10,500)</u>

**Combining the Three Sections of the Statement**

We now combine the three sections of the statement of cash flows to arrive at the one overall statement that the corporation provides to security analysts and stockholders. The information is shown in Table 2–10.

**Table 2–10**

<b>KRAMER CORPORATION</b>	
<b>Statement of Cash Flows</b>	
<b>For the Year Ended December 31, 2009</b>	
Cash flows from operating activities:	
Net income (earnings after taxes) . . . . .	\$ 110,500
Adjustments to determine cash flow from operating activities:	
Add back depreciation . . . . .	\$ 50,000
Increase in accounts receivable . . . . .	(30,000)
Increase in inventory . . . . .	(20,000)
Decrease in prepaid expenses . . . . .	10,000
Increase in accounts payable . . . . .	35,000
Decrease in accrued expenses . . . . .	(5,000)
Total adjustments . . . . .	<u>40,000</u>
Net cash flows from operating activities . . . . .	<u>\$ 150,500</u>
Cash flows from investing activities:	
Increase in investments (long-term securities) . . . . .	(30,000)
Increase in plant and equipment . . . . .	(100,000)
Net cash flows from investing activities . . . . .	(\$130,000)
Cash flows from financing activities:	
Increase in bonds payable . . . . .	50,000
Preferred stock dividends paid . . . . .	(10,500)
Common stock dividends paid . . . . .	(50,000)
Net cash flows from financing activities . . . . .	<u>(10,500)</u>
Net increase (decrease) in cash flows . . . . .	<u>\$ 10,000</u>

We see in Table 2–10 that the firm created excess funds from operating activities that were utilized heavily in investing activities and somewhat in financing activities. As a result, there is a \$10,000 increase in the cash balance, and this can also be reconciled with the increase in the cash balance of \$10,000 from \$30,000 to \$40,000, as previously indicated in Table 2–6 .

One might also do further analysis on how the buildups in various accounts were financed. For example, if there is a substantial increase in inventory or accounts receivable, is there an associated buildup in accounts payable and short-term bank loans? If not, the firm may have to use long-term financing to carry part of the short-term needs. An even more important question might be: How are increases in long-term assets being financed? Most desirably, there should be adequate long-term financing and profits to carry these needs. If not, then short-term funds (trade credit and bank loans) may be utilized to carry long-term needs. This is a potentially high-risk situation, in that short-term sources of funds may dry up while long-term needs continue to demand funding. In problems at the back of the chapter, you will have an opportunity to further consider these points.

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One of the most confusing items to finance students is whether depreciation is a source of funds to the corporation. In Table 2–7, we listed depreciation as a source of funds (cash flow). This item deserves further clarification. The reason we added back depreciation was not that depreciation was a new source of funds, but rather that we had subtracted this noncash expense in arriving at net income and now have to add it back to determine the amount of actual funds on hand.

**Depreciation** represents an attempt to allocate the initial cost of an asset over its useful life. In essence, we attempt to match the annual expense of plant and equipment ownership against the revenues being produced. Nevertheless the charging of depreciation is purely an accounting entry and does not directly involve the movement of funds. To go from accounting flows to cash flows in Table 2–7, we restored the noncash deduction of \$50,000 for depreciation that was subtracted in Table 2–1, the income statement.

Let us examine a simple case involving depreciation in Table 2–11. Assume we purchase a machine for \$500 with a five-year life and we pay for it in cash. Our depreciation schedule calls for equal annual depreciation charges of \$100 per year for five years. Assume further that our firm has \$1,000 in earnings before depreciation and taxes, and the tax obligation is \$300. Note the difference between accounting flows and cash flows for the first two years in Table 2–11.

Since we took \$500 out of cash flow originally in year 1 to purchase equipment (in column B), we do not wish to take it out again. Thus we add back \$100 in depreciation (in column B) each year to “wash out” the subtraction in the income statement.

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A term that has received increasingly greater attention lately is **free cash flow** (FCF). This is actually a by-product of the previously discussed statement of cash flows. Free cash flow is equal to the values shown directly under Table 2–11 in red.

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## Depreciation and Funds Flow

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## Free Cash Flow

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**Table 2–11**

Comparison of  
accounting and cash  
flows

	Year 1	
	(A) Accounting Flows	(B) Cash Flows
Earnings before depreciation and taxes (EBDT) . . . . .	\$1,000	\$ 1,000
Depreciation . . . . .	100	100
Earnings before taxes (EBT) . . . . .	900	900
Taxes . . . . .	300	300
Earnings after taxes (EAT) . . . . .	\$ 600	600
Purchase of equipment . . . . .		– 500
Depreciation charged without cash outlay . . . . .		+100
Cash flow . . . . .		\$ 200
	Year 2	
	(A) Accounting Flows	(B) Cash Flows
Earnings before depreciation and taxes (EBDT) . . . . .	\$1,000	\$ 1,000
Depreciation . . . . .	100	100
Earnings before taxes . . . . .	900	900
Taxes . . . . .	300	300
Earnings after taxes (EAT) . . . . .	\$ 600	600
Depreciation charged without cash outlay . . . . .		+100
Cash flow . . . . .		\$ 700

Free cash flow equals cash flow from operating activities

Minus: Capital expenditures (required to maintain the productive capacity of the firm)

Minus: Dividends (needed to maintain the necessary payout on common stock and to cover any preferred stock obligation).

The concept of free cash flow forces the stock analyst or banker not only to consider how much cash is generated from operating activities, but also to subtract out the necessary capital expenditures on plant and equipment to maintain normal activities. Similarly, dividend payments to shareholders must be subtracted out as these dividends must generally be paid to keep shareholders satisfied.

The balance, free cash flow, is then available for *special financing activities*. In the last decade special financing activities have often been synonymous with leveraged buyouts, in which a firm borrows money to buy its stock and take itself private, with the hope of restructuring its balance sheet and perhaps going public again in a few years at a higher price than it paid. Leveraged buyouts are discussed more fully in Chapter 15. The analyst or banker normally looks at *free cash flow* to determine whether there are sufficient excess funds to pay back the loan associated with the leveraged buyout.

## Income Tax Considerations

Virtually every financial decision is influenced by federal income tax considerations. Primary examples are the lease versus purchase decision, the issuance of common stock versus debt decision, and the decision to replace an asset. While the intent of this

section is not to review the rules, regulations, and nuances of the Federal Income Tax Code, we will examine how tax matters influence corporate financial decisions. The primary orientation will be toward the principles governing corporate tax decisions, though many of the same principles apply to a sole proprietorship or a partnership.

### Corporate Tax Rates

Corporate federal tax rates have changed four times since 1980. Basically the rate is progressive, meaning lower levels of income (such as \$50,000 or \$100,000) are taxed at lower rates. Higher levels of income are taxed at higher rates, normally in the mid-30 percent rate. In the illustrations in the text, we will use various rates to illustrate the impact on decision making. The current top rate is 35 percent. However, keep in mind that corporations may also pay some state and foreign taxes, so

## You Can't Change Your Grade and Accountants Can't Illegally Backdate Options

Stock options have an important function in corporate finance—to incentivize top executives to maximize stock value. Normally an option is granted at a specified price over a 10-year period. For example, if a company's stock is trading at \$40 per share on December 1, 2008, the CEO may be granted options to buy 100,000 shares at \$40 per share between that date and December 1, 2118. Clearly, there is a strong incentive for the CEO to create an environment in which the corporation and its stock value will prosper. Stock options are granted as part of a total compensation package, but can be more important than the actual salary in many cases.

All this is just fine. But what if the fix is on in the granting of options. That could be done by backdating. Here's an example. In the case above the stock was trading at \$40 on the date the option was granted (December 1, 2008). What if on that date, the parties involved pick the lowest price the stock was trading at in 2008 and backdate the option to that date. Assume on July 11, 2008, the stock was at its low point of \$25. In backdating, the corporate records merely show 100,000 options were granted to the CEO at \$25 on July 11, 2008. The current date and price of \$40 are to be found nowhere.

A number of major companies including Home Depot, UnitedHealth Group, Affiliated Computer Services, and others have backdated options for their executives over the last

decade, and it's gotten them in a lot of trouble with the SEC and their own stockholders. Backdated options are not an incentive; they're a "gift."

If corporations actually report them as gifts, they are not illegal. They are an expense and a form of extra compensation. In this case, it would be \$1,500,000 (100,000 options with a built-in gain of \$15). But backdated options are almost always concealed and illegal.

The SEC tends to spot them when a corporation repeatedly appears to pick the lowest stock price year after year to grant options. This evidence attracts the Feds.

In an interesting research example, accounting professor Erik Lie of the University of Iowa examined the options of Black Box Corp., a network infrastructure services provider (ticker symbol BOXX). He determined that a 99.96 percent likelihood that the awarding of Black Box's options on days that the stock was trading at or near a record low was not a coincidence.\*

The Sarbanes-Oxley Act of 2002 has made it tougher to get away with backdating options by requiring disclosure within two days of an option grant, but the fishy smell from the last decade continues to linger as more evidence of prior malfeasance is being discovered.

\*Corilyn Shropshire, "Black Box Stock Option Backdating Sheds Light on Practice," *Pittsburgh Post-Gazette Online*, December 3, 2006.



finance in  
**ACTION**

[www.homedepot.com](http://www.homedepot.com)  
[www.unitedhealthgroup.com](http://www.unitedhealthgroup.com)  
[www.acs-inc.com](http://www.acs-inc.com)

the effective rate can get to 40 percent or higher in some instances. For corporations with low taxable income, the effective rate may only be 15 to 20 percent.

### Cost of a Tax-Deductible Expense

The businessperson often states that a tax-deductible item, such as interest on business loans, travel expenditures, or salaries, costs substantially less than the amount expended, on an aftertax basis. We shall investigate how this process works. Let us examine the tax statements of two corporations—the first pays \$100,000 in interest, and the second has no interest expense. An average tax rate of 40 percent is used for ease of computation.

	Corporation A	Corporation B
Earnings before interest and taxes . . . . .	\$400,000	\$400,000
Interest . . . . .	100,000	0
Earnings before taxes (taxable income) . . . . .	300,000	400,000
Taxes (40%) . . . . .	120,000	160,000
Earnings after taxes . . . . .	\$180,000	\$240,000
Difference in earnings after taxes . . . . .		\$60,000

Although Corporation A paid out \$100,000 more in interest than Corporation B, its earnings after taxes are only \$60,000 less than those of Corporation B. Thus we say the \$100,000 in interest costs the firm only \$60,000 in aftertax earnings. The after-tax cost of a tax-deductible expense can be computed as the actual expense times one minus the tax rate. In this case, we show  $\$100,000 (1 - \text{Tax rate})$ , or  $\$100,000 \times 0.60 = \$60,000$ . The reasoning in this instance is that the \$100,000 is deducted from earnings before determining taxable income, thus saving \$40,000 in taxes and costing only \$60,000 on a net basis.

Because a dividend on common stock is not tax-deductible, we say it cost 100 percent of the amount paid. From a purely corporate cash flow viewpoint, the firm would be indifferent between paying \$100,000 in interest and \$60,000 in dividends.

### Depreciation as a Tax Shield

Although depreciation is not a new source of funds, it provides the important function of shielding part of our income from taxes. Let us examine Corporations A and B again, this time with an eye toward depreciation rather than interest. Corporation

	Corporation A	Corporation B
Earnings before depreciation and taxes . . . . .	\$400,000	\$400,000
Depreciation . . . . .	100,000	0
Earnings before taxes . . . . .	300,000	400,000
Taxes (40%) . . . . .	120,000	160,000
Earnings after taxes . . . . .	180,000	240,000
+ Depreciation charged without cash outlay . . . . .	100,000	0
Cash flow . . . . .	\$280,000	\$240,000
Difference . . . . .		\$40,000

A charges off \$100,000 in depreciation, while Corporation B charges off none. The analysis is shown at the bottom of the previous page.

We compute earnings after taxes and then add back depreciation to get cash flow. The difference between \$280,000 and \$240,000 indicates that Corporation A enjoys \$40,000 more in cash flow. The reason is that depreciation shielded \$100,000 from taxation in Corporation A and saved \$40,000 in taxes, which eventually showed up in cash flow. Though depreciation is not a new source of funds, it does provide tax shield benefits that can be measured as depreciation times the tax rate, or in this case  $\$100,000 \times 0.40 = \$40,000$ . A more comprehensive discussion of depreciation's effect on cash flow is presented in Chapter 12, as part of the long-term capital budgeting decision.

## Summary

The financial manager must be thoroughly familiar with the language of accounting to administer the financial affairs of the firm. The income statement provides a measure of the firm's profitability over a specified period. Earnings per share represents residual income to the common stockholder that may be paid out in the form of dividends or reinvested to generate future profits and dividends. A limitation of the income statement is that it reports income and expense primarily on a transaction basis and thus may not recognize certain major economic events as they occur.

A concept utilized throughout the text is the price-earnings ratio. This refers to the multiplier applied to earnings per share to determine current value of the common stock. The P/E ratio indicates expectations about the future of a company. Firms expected to provide returns greater than those for the market in general with equal or less risk often have P/E ratios higher than the market P/E ratio. Of course, the opposite effect would also be true.

The balance sheet is like a snapshot of the financial position of the firm at a point in time, with the stockholders' equity section purporting to represent ownership interest. Because the balance sheet is presented on a historical cost basis, it may not always reflect the true value of the firm.

The statement of cash flows, the third major statement the corporation presents to stockholders and security analysts, emphasizes the importance of cash flow data to the operations of the firm. It translates the information on the income statement and balance sheet that was prepared on an accrual accounting basis to a cash basis. From these data, the firm can better assess its ability to pay cash dividends, invest in new equipment, and so on.

Depreciation represents an attempt to allocate the initial cost of an asset over its useful life. In essence, we attempt to match the annual expenses of plant and equipment ownership against the revenues being produced. Nevertheless, the charging of depreciation is purely an accounting entry and does not directly involve the movement of funds. To go from accounting flows to cash flows, we restore the noncash deduction for depreciation that was subtracted in the income statement.

## List of Terms

<b>income statement</b>	27	<b>cash flows from investing</b>	
<b>earnings per share</b>	28	<b>activities</b>	36
<b>price-earnings ratio</b>	28	<b>cash flows from financing</b>	
<b>balance sheet</b>	30	<b>activities</b>	36
<b>liquidity</b>	30	<b>depreciation</b>	39
<b>net worth, or book value</b>	32	<b>free cash flow</b>	39
<b>statement of cash flows</b>	33		
<b>cash flows from operating</b>			
<b>activities</b>	34		

## Discussion Questions

1. Discuss some financial variables that affect the price-earnings ratio. (LO2)
2. What is the difference between book value per share of common stock and market value per share? Why does this disparity occur? (LO3)
3. Explain how depreciation generates actual cash flows for the company. (LO5)
4. What is the difference between accumulated depreciation and depreciation expense? How are they related? (LO5)
5. How is the income statement related to the balance sheet? (LO1&3)
6. Comment on why inflation may restrict the usefulness of the balance sheet as normally presented. (LO3)
7. Explain why the statement of cash flows provides useful information that goes beyond income statement and balance sheet data. (LO4)
8. What are the three primary sections of the statement of cash flows? In what section would the payment of a cash dividend be shown? (LO4)
9. What is free cash flow? Why is it important to leveraged buyouts? (LO4)
10. Why is interest expense said to cost the firm substantially less than the actual expense, while dividends cost it 100 percent of the outlay? (LO1)

## Practice Problems and Solutions

1. LeBron Furniture Company has the following financial data. Prepare an income statement and compute earnings per share. See Table 2–1 as an example.

Sales	\$1,300,000
Depreciation expense	70,000
Cost of goods sold	800,000
Interest expense	30,000
Selling and administrative expense	140,000
Common shares outstanding	60,000
Taxes	75,000
Preferred stock dividends	5,000

### Determination of profitability (LO1)

2. Northern Energy Company has assets of \$7,000,000, liabilities of \$4,000,000, and \$500,000 in preferred stock outstanding. Four hundred thousand common stock shares have been issued.
- Compute book value per share.
  - If the firm has earnings per share of \$1.10 and a P/E ratio of 15, what is the stock price per share?
  - What is the ratio of market value per share to book value per share?

Determination of  
profitability  
(LO2)

**Solutions**

1.	Sales .....	\$1,300,000
	Cost of goods sold .....	800,000
	Gross profit .....	500,000
	Selling and administrative expense .....	140,000
	Depreciation expense .....	70,000
	Operating profit .....	290,000
	Interest expense .....	30,000
	Earnings before taxes .....	260,000
	Taxes .....	75,000
	Earnings after taxes .....	185,000
	Preferred stock dividends .....	5,000
	Earnings available to common stockholders .....	\$ 180,000
	Common shares outstanding .....	60,000
	Earnings per share .....	\$ 3.00

2. a. Use the example material on page 32 to compute book value per share.

Total assets .....	\$7,000,000
Total liabilities .....	4,000,000
Stockholders' equity .....	3,000,000
Preferred stock obligation .....	500,000
Net worth assigned to common .....	2,500,000
Common shares outstanding .....	400,000
Book value per share .....	\$ 6.25

b.  $EPS \times P/E \text{ ratio} = \text{Stock price per share}$   
 $\$1.10 \times 15 = \$16.50$

c.  $\frac{\text{Market value}}{\text{Book value}} = \frac{\$16.50}{6.25} = 2.64 \times$

All Problems are available in Homework Manager. Please see the preface for more information. 

**Problems**

1. Rockwell Paper Company had earnings after taxes of \$580,000 in the year 2007 with 400,000 shares of common stock outstanding. On January 1, 2008, the firm issued 35,000 new shares. Because of the proceeds from these new shares and other operating improvements, earnings after taxes increased by 25 percent.

Income statement  
(LO1)

- a. Compute earnings per share for the year 2007.
- b. Compute earnings per share for the year 2008.

**Income statement**  
*(LO1)*

- 2. Sosa Diet Supplements had earnings after taxes of \$800,000 in the year 2008 with 200,000 shares of common stock outstanding. On January 1, 2009, the firm issued 50,000 new shares. Because of the proceeds from these new shares and other operating improvements, earnings after taxes increased by 30 percent.
  - a. Compute earnings per share for the year 2008.
  - b. Compute earnings per share for the year 2009.

**Gross profit**  
*(LO1)*

- 3. a. Kevin Bacon and Pork Company had sales of \$240,000 and cost of goods sold of \$108,000. What is the gross profit margin (ratio of gross profit to sales)?
  - b. If the average firm in the pork industry had a gross profit of 60 percent, how is the firm doing?

**Income statement**  
*(LO1)*

- 4. Arrange the following income statement items so they are in the proper order of an income statement:

Taxes	Earnings per share
Common shares outstanding	Earnings before taxes
Gross profit shares outstanding	Cost of goods sold
Interest expense	Earnings after taxes
Depreciation expense	Earnings available to common stockholders
Preferred stock dividends	Selling and administrative expense
Operating profit	
Sales	
Gross profit	

**Income statement**  
*(LO1)*

- 5. Given the following information, prepare in good form an income statement for Goodman Software, Inc.


Selling and administrative expense . . . . .	\$ 50,000
Depreciation expense . . . . .	80,000
Sales . . . . .	400,000
Interest expense . . . . .	30,000
Cost of goods sold . . . . .	150,000
Taxes . . . . .	18,550

**Income statement**  
*(LO1)*



- 6. Given the following information, prepare in good form an income statement for the Kid Rock and Gravel Company.

Selling and administrative expense . . . . .	\$ 60,000
Depreciation expense . . . . .	70,000
Sales . . . . .	470,000
Interest expense . . . . .	40,000
Cost of goods sold . . . . .	140,000
Taxes . . . . .	45,000

-  7. Prepare in good form an income statement for Virginia Slim Wear. Take your calculations all the way to computing earnings per share.

Determination of  
profitability  
(LO1)

Sales .....	\$600,000
Shares outstanding .....	100,000
Cost of goods sold .....	200,000
Interest expense .....	30,000
Selling and administrative expense .....	40,000
Depreciation expense .....	20,000
Preferred stock dividends .....	80,000
Taxes .....	100,000

8. Prepare in good form an income statement for Franklin Kite Co., Inc. Take your calculations all the way to computing earnings per share.

Determination of  
profitability  
(LO1)

Sales .....	\$900,000
Shares outstanding .....	50,000
Cost of goods sold .....	400,000
Interest expense .....	40,000
Selling and administrative expense .....	60,000
Depreciation expense .....	20,000
Preferred stock dividends .....	80,000
Taxes .....	50,000

9. Lasar Technology, Inc., had sales of \$500,000, cost of goods sold of \$180,000, selling and administrative expense of \$70,000, and operating profit of \$90,000. What was the value of depreciation expense? Set this problem up as a partial income statement, and determine depreciation expenses as the plug figure.

Income statement  
(LO1)

10. The Ace Book Company sold 1,500 finance textbooks for \$185 each to High Tuition University in 2008. These books cost Ace \$145 to produce. Ace spent \$10,000 (selling expense) to convince the university to buy its books. In addition, Ace borrowed \$80,000 on January 1, 2008, on which the company paid 10 percent interest. Both interest and principal on the loan were paid on December 31, 2008. Ace's tax rate is 25 percent. Depreciation expense for the year was \$15,000.

Determination of  
profitability  
(LO1)

Did Ace Book Company make a profit in 2008? Please verify with an income statement presented in good form.

11. Carr Auto Wholesalers had sales of \$900,000 in 2008 and their cost of goods sold represented 65 percent of sales. Selling and administrative expenses were 9 percent of sales. Depreciation expense was \$10,000 and interest expense for the year was \$8,000. The firm's tax rate is 30 percent.

Determination of  
profitability  
(LO1)

- Compute earnings after taxes.
- Assume the firm hires Ms. Hood, an efficiency expert, as a consultant. She suggests that by increasing selling and administrative expenses to 12 percent of sales, sales can be increased to \$1,000,000. The extra sales effort



will also reduce cost of goods sold to 60 percent of sales (there will be a larger markup in prices as a result of more aggressive selling). Depreciation expense will remain at \$10,000. However, more automobiles will have to be carried in inventory to satisfy customers, and interest expense will go up to \$15,000. The firm's tax rate will remain at 30 percent. Compute revised earnings after taxes based on Ms. Hood's suggestions for Carr Auto Wholesalers. Will her ideas increase or decrease profitability?

Balance sheet  
(LO3)

12. Classify the following balance sheet items as current or noncurrent:

Retained earnings	Bonds payable
Accounts payable	Accrued wages payable
Prepaid expenses	Accounts receivable
Plant and equipment	Capital in excess of par
Inventory	Preferred stock
Common stock	Marketable securities

Balance sheet and  
income statement  
classification  
(LO1&3)

13. Fill in the blank spaces with categories 1 through 7.

1. Balance sheet (BS)
2. Income statement (IS)
3. Current assets (CA)
4. Fixed assets (FA)
5. Current liabilities (CL)
6. Long-term liabilities (LL)
7. Stockholders' equity (SE)

Indicate Whether Item Is on Balance Sheet (BS) or Income Statement (IS)	If on Balance Sheet, Designate Which Category	Item
_____	_____	Accounts receivable
_____	_____	Retained earnings
_____	_____	Income tax expense
_____	_____	Accrued expenses
_____	_____	Cash
_____	_____	Selling and administrative expenses
_____	_____	Plant and equipment
_____	_____	Operating expenses
_____	_____	Marketable securities
_____	_____	Interest expense
_____	_____	Sales
_____	_____	Notes payable (6 months)
_____	_____	Bonds payable, maturity 2009
_____	_____	Common stock
_____	_____	Depreciation expense
_____	_____	Inventories
_____	_____	Capital in excess of par value
_____	_____	Net income (earnings after taxes)
_____	_____	Income tax payable

14. Arrange the following items in proper balance sheet presentation:

Accumulated depreciation . . . . .	\$200,000
Retained earnings . . . . .	110,000
Cash . . . . .	5,000
Bonds payable . . . . .	142,000
Accounts receivable . . . . .	38,000
Plant and equipment—original cost . . . . .	720,000
Accounts payable . . . . .	35,000
Allowance for bad debts . . . . .	6,000
Common stock, \$1 par, 100,000 shares outstanding . . . . .	150,000
Inventory . . . . .	66,000
Preferred stock, \$50 par, 1,000 shares outstanding . . . . .	50,000
Marketable securities . . . . .	15,000
Investments . . . . .	20,000
Notes payable . . . . .	83,000
Capital paid in excess of par (common stock) . . . . .	88,000

Development of  
balance sheet  
(LO3)

15. Elite Trailer Parks has an operating profit of \$200,000. Interest expense for the year was \$10,000; preferred dividends paid were \$18,750; and common dividends paid were \$30,000. The tax was \$61,250. The firm has 20,000 shares of common stock outstanding.

Earnings per share  
and retained  
earnings  
(LO1&3)

- Calculate the earnings per share and the common dividends per share for Elite Trailer Parks.
- What was the increase in retained earnings for the year?

16. Johnson Alarm Systems had \$800,000 of retained earnings on December 31, 2008. The company paid common dividends of \$60,000 in 2008 and had retained earnings of \$640,000 on December 31, 2007. How much did Johnson earn during 2008, and what would earnings per share be if 50,000 shares of common stock were outstanding?

Earnings per share  
and retained  
earnings  
(LO1&3)

17. Mozart Music Co. had earnings after taxes of \$560,000 in 2008 with 200,000 shares of stock outstanding. The stock price was \$58.80. In 2009, earnings after taxes increased to \$650,000 with the same 200,000 shares outstanding. The stock price was \$78.00.

Price-earnings ratio  
(LO2)

- Compute earnings per share and the P/E ratio for 2008. The P/E ratio equals the stock price divided by earnings per share.
- Compute earnings per share and the P/E ratio for 2009.
- Give a general explanation of why the P/E changed.

18. Assume for Mozart Music Co., discussed in Problem 17, in 2010 earnings after taxes declined to \$300,000 with the same 200,000 shares outstanding. The stock price declined to \$54.00.

Price-earnings ratio  
(LO2)

- Compute earnings per share and the P/E ratio for 2010.
- Give a general explanation of why the P/E changed. You might want to consult page 29 of the textbook to explain this surprising result.

Cash flow  
(LO4)

19. Identify whether each of the following items increases or decreases cash flow:

- |                                 |                              |
|---------------------------------|------------------------------|
| Increase in accounts receivable | Decrease in prepaid expenses |
| Increase in notes payable       | Increase in inventory        |
| Depreciation expense            | Dividend payment             |
| Increase in investments         | Increase in accrued expenses |
| Decrease in accounts payable    |                              |

Free cash flow  
(LO4)

20. Nova Electrics anticipated cash flow from operating activities of \$6 million in 2008. It will need to spend \$1.2 million on capital investments in order to remain competitive within the industry. Common stock dividends are projected at \$.4 million and preferred stock dividends at \$.55 million.

- What is the firm's projected free cash flow for the year 2008?
- What does the concept of free cash flow represent?

Depreciation  
and cash flow  
(LO5)

21. The Rogers Corporation has a gross profit of \$880,000 and \$360,000 in depreciation expense. The Evans Corporation also has \$880,000 in gross profit, with \$60,000 in depreciation expense. Selling and administrative expense is \$120,000 for each company.

Given that the tax rate is 40 percent, compute the cash flow for both companies. Explain the difference in cash flow between the two firms.

Book value  
(LO3)

22. Horton Electronics has current assets of \$320,000 and fixed assets of \$640,000. Current liabilities are \$90,000 and long-term liabilities are \$160,000. There is \$90,000 in preferred stock outstanding and the firm has issued 40,000 shares of common stock. Compute book value (net worth) per share.

Book value and  
P/E ratio  
(LO2&3)

23. The Holtzman Corporation has assets of \$400,000, current liabilities of \$50,000, and long-term liabilities of \$100,000. There is \$40,000 in preferred stock outstanding; 20,000 shares of common stock have been issued.

- Compute book value (net worth) per share.
- If there is \$22,000 in earnings available to common stockholders and Holtzman's stock has a P/E of 18 times earnings per share, what is the current price of the stock?
- What is the ratio of market value per share to book value per share?

Book value and  
market value  
(LO2&3)

24. Bradley Gypsum Company has assets of \$1,900,000, current liabilities of \$700,000, and long-term liabilities of \$580,000. There is \$170,000 in preferred stock outstanding; 30,000 shares of common stock have been issued.

- Compute book value (net worth) per share.
- If there is \$42,000 in earnings available to common stockholders and Bradley's stock has a P/E of 15 times earnings per share, what is the current price of the stock?
- What is the ratio of market value per share to book value per share?

Book value and  
P/E ratio (LO2&3)

25. In problem 24, if the firm sells at two times book value per share, what will the P/E ratio be?

Construction of  
income statement  
and balance sheet  
(LO1&3)

26. For December 31, 2007, the balance sheet of the Gardner Corporation is as follows:

Current Assets		Liabilities	
Cash . . . . .	\$ 15,000	Accounts payable . . . . .	\$ 20,000
Accounts receivable . . . . .	22,500	Notes payable . . . . .	30,000
Inventory . . . . .	37,500	Bonds payable . . . . .	75,000
Prepaid expenses . . . . .	18,000		
Fixed Assets		Stockholders' Equity	
Plant and equipment (gross) . . . . .	\$375,000	Common stock . . . . .	\$112,500
		Paid-in capital . . . . .	37,500
Less: Accumulated depreciation . . . . .	75,000	Retained earnings . . . . .	<u>118,000</u>
Net plant and assets . . . . .	<u>300,000</u>	Total liabilities and	
Total assets . . . . .	<u>\$393,000</u>	stockholders' equity . . . . .	<u>\$393,000</u>

Sales for the year 2008 were \$330,000, with cost of goods sold being 60 percent of sales. Selling and administrative expense was \$33,000. Depreciation expense was 10 percent of plant and equipment (gross) at the beginning of the year. Interest expense for the notes payable was 10 percent, while interest on the bonds payable was 12 percent. These were based on December 31, 2007, balances. The tax rate averaged 20 percent.

Two thousand dollars in preferred stock dividends were paid and \$4,100 in dividends were paid to common stockholders. There were 10,000 shares of common stock outstanding.

During the year 2008, the cash balance and prepaid expenses balance were unchanged. Accounts receivable and inventory increased by 20 percent. A new machine was purchased on December 31, 2008, at a cost of \$60,000.

Accounts payable increased by 30 percent. At year-end, December 31, 2008, notes payable increased by \$10,000 and bonds payable decreased by \$15,000. The common stock and paid-in capital in excess of par accounts did not change.

- a. Prepare an income statement for the year 2008.
  - b. Prepare a statement of retained earnings for the year 2008.
  - c. Prepare a balance sheet as of December 31, 2008.
27. Prepare a statement of cash flows for the Crosby Corporation. Follow the general procedures indicated in Table 2–10 on page 38.

Statement of cash  
flows  
(L04)

**CROSBY CORPORATION**

**Income Statement**

**For the Year Ended December 31, 2008**

Sales . . . . .	\$2,200,000
Cost of goods sold . . . . .	<u>1,300,000</u>
Gross profits . . . . .	900,000
Selling and administrative expense . . . . .	420,000
Depreciation expense . . . . .	<u>150,000</u>
Operating income . . . . .	330,000
Interest expense . . . . .	<u>90,000</u>
Earnings before taxes . . . . .	240,000
Taxes . . . . .	<u>80,000</u>

*continued*

**CROSBY CORPORATION**

**Income Statement**

**For the Year Ended December 31, 2008**

Earnings after taxes . . . . .	160,000
Preferred stock dividends . . . . .	10,000
Earnings available to common stockholders . . . . .	<u>\$ 150,000</u>
Common shares outstanding . . . . .	120,000
Earnings per share . . . . .	\$ 1.25

**Statement of Retained Earnings**

**For the Year Ended December 31, 2008**

Retained earnings, balance, January 1, 2008 . . . . .	\$500,000
Add: Earnings available to common stockholders, 2008 . . . . .	150,000
Deduct: Cash dividends declared and paid in 2008 . . . . .	50,000
Retained earnings, balance, December 31, 2008 . . . . .	<u>\$600,000</u>

**Comparative Balance Sheets**

**For 2007 and 2008**

	Year-End 2007	Year-End 2008
<b>Assets</b>		
Current assets:		
Cash . . . . .	\$ 70,000	\$ 100,000
Accounts receivable (net) . . . . .	300,000	350,000
Inventory . . . . .	410,000	430,000
Prepaid expenses . . . . .	50,000	30,000
Total current assets . . . . .	<u>830,000</u>	<u>910,000</u>
Investments (long-term securities) . . . . .	80,000	70,000
Plant and equipment . . . . .	2,000,000	2,400,000
Less: Accumulated depreciation . . . . .	<u>1,000,000</u>	<u>1,150,000</u>
Net plant and equipment . . . . .	<u>1,000,000</u>	<u>1,250,000</u>
Total assets . . . . .	<u>\$1,910,000</u>	<u>\$2,230,000</u>
<b>Liabilities and Stockholders' Equity</b>		
Current liabilities:		
Accounts payable . . . . .	\$ 250,000	\$ 440,000
Notes payable . . . . .	400,000	400,000
Accrued expenses . . . . .	70,000	50,000
Total current liabilities . . . . .	<u>720,000</u>	<u>890,000</u>
Long-term liabilities:		
Bonds payable, 2012 . . . . .	<u>70,000</u>	<u>120,000</u>
Total liabilities . . . . .	<u>790,000</u>	<u>1,010,000</u>
Stockholders' equity:		
Preferred stock, \$100 per value . . . . .	90,000	90,000
Common stock, \$1 par value . . . . .	120,000	120,000
Capital paid in excess of par . . . . .	410,000	410,000
Retained earnings . . . . .	<u>500,000</u>	<u>600,000</u>
Total stockholders' equity . . . . .	<u>1,120,000</u>	<u>1,220,000</u>
Total liabilities and stockholders' equity . . . . .	<u>\$1,910,000</u>	<u>\$2,230,000</u>

(The following questions apply to the Crosby Corporation, as presented in problem 27.)

28. Describe the general relationship between net income and net cash flows from operating activities for the firm.
29. Has the buildup in plant and equipment been financed in a satisfactory manner? Briefly discuss.
30. Compute the book value per common share for both 2007 and 2008 for the Crosby Corporation.
31. If the market value of a share of common stock is 3.3 times book value for 2008, what is the firm's P/E ratio for 2008?

Net income and  
cash flows (LO1&3)

Financing of assets  
(LO3)

Book value (LO3)

P/E ratio (LO2)

## WEB EXERCISE

PepsiCo is a company that provides comprehensive financial statements. Go to its Web site, [www.pepsico.com](http://www.pepsico.com), and under “Investors,” click on “Annual Reports.” Then click on the most current annual report (interactive). Next click on “Financial Reports.”

1. Indicate the change for the most recent year in (in percentages) for the following:
  - a. Total net revenue
  - b. Net income
  - c. Capital spending
  - d. Dividends paid.
2. Next click on “PepsiCo International” under the “Financial Highlights” menu. Scroll down and indicate what percentage of revenues is provided by Frito Lay North America and what percentage by Latin American Foods.

*Note:* Occasionally a topic we have listed may have been deleted, updated, or moved into a different location on a Web site. If you click on the site map or site index, you will be introduced to a table of contents which should aid you in finding the topic you are looking for.

## S & P PROBLEMS

[www.mhhe.com/edumarketinsight](http://www.mhhe.com/edumarketinsight)

Log onto the S&P Market Insight Web site, [www.mhhe.com/edumarketinsight](http://www.mhhe.com/edumarketinsight). Click on “Company,” which is the first box below the Market Insight title. Type Abercrombie & Fitch's ticker symbol “ANF” in the box and click on Go. Scroll down the left margin and click on “Excel Analytics.” At the top of the left margin you will see the Annual Income Statement, Balance Sheet, and Cash Flow Statement. Click on “Ann. Income Statement” and maximize the window at the top right-hand corner of the spreadsheet. You will find an Excel workbook with three sheets: (1) Annual Income Statement, (2) % Change, and (3) Key Items.

1. Familiarize yourself with the company and after looking at all three sheets, prepare a written analysis of the company over the time period available. When you are done, close the window and click on “Ann. Balance Sheet.”
2. How much long-term debt does ANF have?

STANDARD  
& POOR'S

3. How much preferred stock does ANF have?
4. How much common stockholders' equity does ANF have?
5. What is the ratio of long-term debt divided by stockholders' equity?

When you have finished, close the window and click on “Ann. Cash Flow” for the latest available period.

6. List the net cash flow from operating activities and identify the major item contributing to an increase and decrease in the operating cash flow.
7. List the net cash flow from investing activities and identify the major item contributing to an increase and decrease in the cash flow from investment activities.
8. List the net cash flow from financing activities and identify the major item contributing to an increase and decrease in the cash flow from financing activities.
9. Finally, what is the increase or decrease in cash and cash equivalents?