# Analysis of the Corporate Annual Report

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All numerical values in this course are examples subject to change. The current values may vary and may not be valid in the present economic environment.

## Course Description

This course focuses on an analysis of the corporate annual report. It help you interpret and understand its components, including the financial statements, footnotes, review of operations, auditor's report, supplementary schedules, management discussion and analysis (MD&A), and Management’s Report On Internal Control Over Financial Reporting. It touches upon how the Sarbanes-Oxley 404 reporting differs from traditional reporting. The course also teaches you how to perform financial ratio and cash flow analyses.

| | |
|---|---|
| **Field of Study** | Accounting |
| **Level of Knowledge** | Basic |
| **Prerequisite** | None |
| **Advanced Preparation** | None |

# Table of Contents

# Chapter 1:

## Annual Report: The Financial Statements

### Learning objectives

After reading this chapter, you should be able to:

- Identify the basic financial statements of the annual report and their purpose: the balance sheet, income statement, and statement of cash flows.
- Recognize the elements of the balance sheet.
- Recognize how the income statement reveals the entity's operating performance.
- Identify a company's cash inflows and cash outflows.
- Identify the types of accounts that may exist in the financial statements.

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Knowing the financial health of your company is important. Such knowledge can help you allocate resources and pinpoint areas requiring development and problems needing correction. Do you know how your company is doing financially? Is it growing or contracting? Will it be around for a long time? How profitable is your department, and what can be done to improve the profitability picture? These questions and others can be answered if you understand corporate financial statements. On the other hand, if you do not know how your company is doing financially, you cannot provide the needed financial leadership.

This chapter looks at the corporate *annual report* that contains the key financial statements. These financial statements are the only financial information outsiders are likely to see. Other contents of the annual report, such as management discussion and analysis (MD&A) and audit reports are also discussed. The Sarbanes-Oxley Section 404(b) reporting requirements are also explained.

# What and Why of Financial Statements

Financial decisions are typically based on information generated from the accounting system. Financial management, stockholders, potential investors, and creditors are concerned with how well the company is doing. The three reports generated by the accounting system and included in the company's annual report are the *balance sheet, income statement,* and *statement of cash flows.* Although the form of these financial statements may vary among different businesses or other economic units, their basic purposes do not change.

The balance sheet, also called the *statement of financial position*, portrays the financial position of the organization at a particular point in time. It shows what you own (assets), how much you owe to vendors and lenders (liabilities), and what is left (assets minus liabilities, known as equity or net worth). A balance sheet is a snapshot of the company's financial position as of a certain date. The balance sheet equation can be stated as: Assets - Liabilities = Stockholders' Equity.

The income statement, on the other hand, measures the operating performance for a specified period of time (e.g., for the year ended December 31, 2X11). If the balance sheet is a snapshot, the income statement is a motion picture. The income statement serves as the bridge between two consecutive balance sheets. Simply put, the balance sheet indicates the wealth of your company and the income statement tells you how your company did last year.

The balance sheet and the income statement tell different things about your company. For example, the fact the company made a big profit last year does not necessarily mean it is liquid (has the ability to pay current liabilities using current assets) or solvent (noncurrent assets are enough to meet noncurrent liabilities). (Liquidity and solvency are discussed in detail in Chapter 2.) A company may have reported a significant net income but still have a deficient net worth. In other words, to find out how your organization is doing, you need both statements. The income statement summarizes your company's operating results for the accounting period; these results are reflected in the equity (net worth) on the balance sheet. This relationship is shown in Figure 1-1. The third basic financial statement is the statement of cash flows. This statement provides useful information about the inflows and outflows of cash that cannot be found in the balance sheet and the income statement.

**Figure 1-1**
**The balance sheet and income statement**

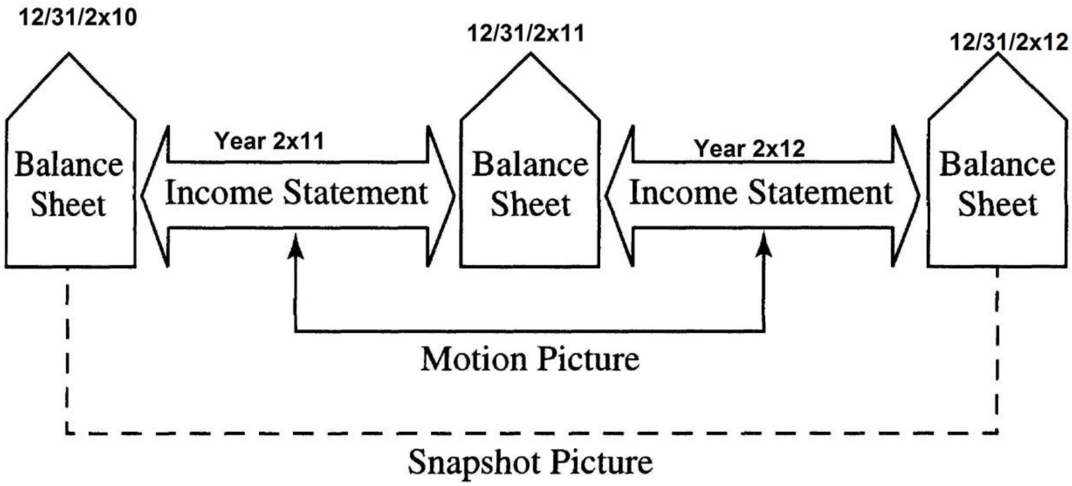


Figure 1-2 shows how these statements, including the statement of retained earnings (to be discussed later), tie together with numerical figures. *Note:* The beginning amount of cash ($50 million) from the 2X11 balance sheet is added to the net increase or decrease in cash (from the statement of cash flows) to derive the cash balance ($111 million) as reported on the 2X12 balance sheet. Similarly, the retained earnings balance as reported on the 2X12 balance sheet comes from the beginning retained earnings balance (2X11 balance sheet) plus net income for the period (from the income statement) less dividends paid. As you study financial statements, these relationships will become clearer and you will understand the concept of articulation better.

## FIGURE 1-2

## HOW THE FINANCIAL STATEMENTS TIE TOGETHER

| Statement of Cash Flows<br>12/31/2x11-12/31/2x12<br>(in millions) | | |
|---|---|---|
| Operating activities | $ | 1,488.4 |
| Investing activities | | (2,064.3) |
| Financing activities | | 636.4 |
| Net increase in cash | $ | 60.5 |
| Beginning cash | | 50.0 |
| Ending cash | $ | 110.5 |

| Balance Sheet, 12/31/2x11 | | |
|---|---|---|
| Cash | $ | 50.0 |
| All other assets | | 11,339.6 |
| | $ | 11,389.6 |
| Liabilities | $ | 8,307.5 |
| Capital stock | | 1,157.1 |
| Retained earnings | | 1,925.0 |
| | $ | 11,389.6 |

| Income Statement, 12/31/2x11-12/31/2x12 | | |
|---|---|---|
| Revenues | $ | 28,898.2 |
| Expenses | | 27,927.3 |
| | | |
| Net income | $ | 970.9 |

| Balance Sheet, 12/31/2x12 | | |
|---|---|---|
| Cash | $ | 110.5 |
| All other assets | | 14,794.1 |
| | $ | 110.5 |
| Liabilities | $ | 10,814.5 |
| Capital stock | | 1,194.2 |
| Retained earnings | | 2,895.9 |
| | $ | 14,904.6 |

| Statement of Retained Earnings<br>12/31/2x11-12/31/2x12 | | |
|---|---|---|
| Retained earnings, 12/31/2x11 | $ | 1,925.0 |
| Net income | | 970.9 |
| Dividends | | 0 |
| | | |
| Retained earnings, 12/31/2x12 | $ | 2,895.9 |

## More on the Income Statement

The income statement (profit and loss statement) shows the revenue, expenses, and net income (or net loss) for a period of time. A definition of each element follows.

*Revenue* is the increase in capital arising from the sale of merchandise or the performance of services. When revenue is earned, it results in an increase in either cash (money received) or accounts receivable (amounts owed to you by customers).

*Expenses* decrease capital and result from performing activities necessary to generate revenue. Expenses that reduce revenue can be categorized as the cost of goods sold and selling and general administrative expenditures necessary to conduct business operations (e.g., rent expense, salary expense, depreciation expense) during the period.

*Net income* is the amount by which total revenue exceeds total expenses. The resulting profit is added to the *retained earnings* account (accumulated earnings of a company since its inception less dividends). If total expenses are greater than total revenue, a net loss results, decreasing retained earnings.

Revenue does not necessarily mean receipt of cash, and expense does not automatically imply a cash payment. Net income and net cash flow (cash receipts less cash payments) are different. For example, taking out a bank loan generates cash, but this cash is not revenue since no merchandise has been sold and no services have been provided. Further, owners' equity does not change as the loan represents a liability, rather than a stockholders' investment, and must be repaid.

Each revenue and expense item has its own account. Such a system enables you to better evaluate and control revenue and expense sources and to examine the relationships among account categories.

## Classified Financial Statements

Although the specific transactions and accounts differ from business to business, it is useful to classify the entries in financial statements into major categories. Financial statements organized in such a fashion are called classified financial statements.

### *Classified Income Statement*

In a *classified* income statement, each major revenue and expense function is listed separately to facilitate analysis. The entries in an income statement are usually classified into four major functions: revenue, cost of goods sold (cost of inventory sold), operating expenses, and other revenue or expenses. The entries in classified income statements covering different time periods are easily compared; the comparison over time of revenue sources, expense items, and the relationship between them can reveal areas that require attention and corrective action. For example, if revenue from services has been sharply declining over the past several months, you will want to know why and then take action to reverse the trend.

*Revenue* comprises the gross income generated by selling goods (sales) or performing services (professional fees, commission income). To determine *net* sales, gross sales are reduced by sales returns, allowances (discounts given for defective merchandise), and sales discounts.

*Cost of goods sold is* the cost of the merchandise or services sold. In a retail business, the cost of goods sold is the beginning inventory plus the cost of buying goods from the manufacturer minus ending inventory; in a service business, it is the cost of the employee services rendered. For a manufacturing company, cost of goods sold is the cost of goods manufactured plus the beginning finished goods inventory minus the ending finished goods inventory.

*Operating expenses* are expenses incurred or resources used in generating revenue. Two types of operating expenses are selling expenses and general and administrative expenses. *Selling expenses* are costs incurred in the sale of goods or services (e.g., advertising, salesperson salaries) and in distributing the merchandise (e.g., freight paid on shipments); they relate solely to the selling function. If a sales manager is responsible for generating sales, his or her performance is judged on the relationship between promotion costs and sales obtained. *General and administrative expenses* are the costs of running the business as a whole. The salaries of the office clerical staff, administrative executive salaries, and depreciation on office equipment are examples of general and administrative expenses.

*Other revenue (expenses)* covers incidental sources of revenue and expense that are *nonoperating* in nature and that do not relate to the major purpose of the business. Examples are interest income, dividend income, and interest expense.

Figure 1-3 shows a classified income statement.

**Figure 1-3**
**A Classified Income Statement**
**X Company**
**For the Year Ended December 2X12**

| | | | |
|---|---|---|---|
| Sales Revenue | | | |
| Sales | | | $3,053,081 |
| Less: Sales discounts | | $ 24,241 | |
| Sales returns and allowances | | 56,427 | 80,668 |
| Net sales revenue | | | 2,972,413 |
| Cost of Goods Sold | | | |
| Merchandise inventory, Jan. 1, 2004 | | 461,219 | |
| Purchases | $1,989,693 | | |
| Less: Purchase discounts | 19,270 | | |
| Net purchases | 1,970,423 | | |
| Freight and transportation-in | 40,612 | 2,011,035 | |
| Total merchandise available for sale | | 2,472,254 | |
| Less: Merchandise inventory, Dec. 31, 2004 | | 489,713 | |
| Cost of goods sold | | | 1,982,541 |
| Gross profit on sales | | | 989,872 |
| Operating Expenses | | | |
| Selling expenses | | | |
| Sales salaries and commissions | 202,644 | | |
| Sales office salaries | 59,200 | | |
| Travel and entertainment | 48,940 | | |
| Advertising expense | 38,315 | | |
| Freight and transportation-out | 41,209 | | |
| Shipping supplies and expense | 24,712 | | |
| Postage and stationery | 16,788 | | |
| Depreciation of sales equipment | 9,005 | | |
| Telephone and Internet expense | 12,215 | 453,028 | |
| Administrative expenses | | | |
| Officers' salaries | 186,000 | | |
| Office salaries | 61,200 | | |
| Legal and professional services | 23,721 | | |
| Utilities expense | 23,275 | | |
| Insurance expense | 17,029 | | |
| Depreciation of building | 18,059 | | |
| Depreciation of office equipment | 16,000 | | |
| Stationery, supplies, and postage | 2,875 | | |
| Miscellaneous office expenses | 2,612 | 350,771 | 803,799 |
| Income from operations | | | 186,073 |
| Other Revenues and Gains | | | |
| Dividend revenue | | 98,500 | |
| Rental revenue | | 72,910 | 171,410 |
| | | | 357,483 |
| Other Expenses and Losses | | | |
| Interest on bonds and notes | | | 126,060 |
| Income before income tax | | | 231,423 |
| Income tax | | | 66,934 |
| Net income for the year | | | $ 164,489 |
| Earnings per common share | | | $1.74 |

## *Classified Balance Sheet*

The balance sheet is classified into major groups of assets, liabilities, and owners' equity. An *asset is* something owned, such as land and automobile; a *liability is* something owed, such as loans payable and mortgage payable. Owners' equity is the residual interest remaining after assets have been reduced by liabilities.

**Assets**

A classified balance sheet generally breaks down assets into five categories: current assets, long-term investments, property, plant, and equipment (fixed assets), intangible assets, and deferred charges. This breakdown aids in analyzing the type and liquidity of the assets held.

*Current assets* are assets expected to be converted into cash or used up within *one year* or the normal operating cycle of the business, whichever is greater. (The operating cycle is the time period between the purchase of inventory merchandise for resale and the transfer of inventory through sales, listed as accounts receivable, or receipt of cash. In effect, the operating cycle takes you from paying cash to receiving it.) Examples of current assets are cash, marketable securities,), accounts receivable, inventory, and prepaid expenses (expenditures that will expire within one year from the balance sheet date and that represent a prepayment for an expense that has not yet been incurred.)

*Long-term investments* refer to investments in other companies' stocks (common or preferred) or bonds where the *intent* is to hold them for a period greater than one year. Securities that may be held as short-term or long-term investments fall into three categories: held-to-maturity securities, trading securities, and available-for-sale securities. Trading securities are classified as *short-term investments*. Held-to-maturity securities and available-for-sale securities, depending on their length to maturity or management's intent to hold them, may be classified as either short-term or long-term investments.

*Property, plant, and equipment* (often called fixed assets) are assets employed in the production of goods or services that have a life greater than one year. They are *tangible,* meaning they have physical substance (you can physically see and touch them) and are actually being used in the course of business. Examples are land, buildings, machinery, and automobiles. Unlike inventory, these assets are not held for sale in the normal course of business.

*Intangible assets* are assets with a long-term life that lack physical substance and that arise from a right granted by the government, such as patents, copyrights, and trademarks, or by another company, such as a franchise license. An example of the latter is the right (acquired by paying a fee) to open a fast food franchise and use the name of McDonald's.

*Deferred charges* are certain expenditures that have already been incurred but that are deferred to the future either because they are expected to benefit future revenues or because they represent an appropriate allocation of costs to future operations. In other words, deferred charges are costs charged to an asset because future benefit exists; they are amortized as an expense in the year the related revenue is recognized and the benefit consumed in conformity with the accounting principle requiring matching of expense to revenue. Examples are plant rearrangement costs and moving costs. No cash can be realized from such assets; for example, you cannot sell deferred moving costs to anyone because no one will buy them.

**Liabilities and Stockholders' Equity**

*Liabilities* are classified as either current or noncurrent. *Current liabilities* (those due in one year or less) will be satisfied out of current assets. Examples are accounts payable (amounts owed to creditors), short-term notes payable (written evidence of loans due within one year), and accrued expense liabilities (e.g., salaries payable).

Examples of *long-term liabilities,* which have a maturity of greater than one year, are bonds payable and mortgage payable. The current portion of a long-term liability (that part that is to be paid within one year) is shown under current liabilities. For example, if $1,000 of a $10,000 mortgage is to be paid within the year, that $1,000 is listed as a current liability; the remaining $9,000 is shown under noncurrent liabilities. The stockholders' equity section of the balance sheet consists of capital stock, paid-in-capital, retained earnings, and total stockholders' equity. These are defined below.

*Capital stock* describes the ownership of the corporation in terms of the number of shares outstanding. Each share is assigned a par value when it is first authorized by the state in which the business is incorporated. Capital stock is presented on the balance sheet at total par value. Therefore, the capital stock account, which is at *par value,* agrees with the stock certificates (imprinted with the par value) held by stockholders. Preferred stock is listed before common stock because it receives preference should the company be liquidated.

*Paid-in capital* shows the amount received by the company over the par value for the stock issued. This helps keep track of the par value of issued shares and the excess over par value paid for it.

*Retained earnings* represent the accumulated earnings of the company since its inception less dividends declared and paid to stockholders. There is usually a surplus in this account, but a deficit may occur if the business has been operating at a loss.

*Total stockholders' equity is* the sum of capital stock, paid-in capital, and retained earnings. In a corporation, owners' equity is referred to as stockholders' equity; in a sole proprietorship or partnership, owners' equity is referred to as capital.

A classified balance sheet is presented in Figure 1-4.

**Figure 1-4**

**A Classified Balance Sheet**

**X Company**

**Balance Sheet**

**December 31, 2X12**

| | | |
|---|---|---|
| ASSETS | | |
| Current Assets | | |
| Cash | $3,000 | |
| Marketable Securities | 1,000 | |
| Accounts Receivable | 6,000 | |
| Inventory | 5,000 | |
| Total Current Assets | | $15,000 |
| Long-Term Investments | | |
| Investment in Y Company Stock | | 2,000 |
| Property, Plant, and Equipment | | |
| Land | $20,000 | |
| Building (less accumulated depreciation) | 30,000 | |
| Machinery (less accumulated depreciation) | 7,000 | |
| Delivery Trucks (less accumulated depreciation) | 5,000 | |
| Total Property, Plant, and Equipment | | 62,000 |
| Intangible Assets | | |
| Patents (less accumulated amortization) | | 3,000 |
| Deferred Charges | | |
| Deferred Moving Costs | | 1,000 |
| Total Assets | | $83,000 |
| LIABILITIES AND STOCKHOLDERS' EQUITY | | |
| Current Liabilities | | |
| Accounts Payable | $8,000 | |
| Notes Payable (9 months) | 4,000 | |
| Accrued Expense Liabilities | 2,000 | |
| Total Current Liabilities | | $14,000 |
| Noncurrent Liabilities | | |
| Bonds Payable | | 30,000 |
| Total Liabilities | | $44,000 |
| Stockholders' Equity | | |
| Capital Stock | $20,000 | |
| Paid-in Capital | 4,000 | |
| Retained Earnings* | 15,000 | |
| Total Stockholders' Equity | | 39,000 |
| Total Liabilities and Stockholders' Equity | | $83,000 |

* A schedule of retained earnings follows:

| | |
|---|---|
| Retained earnings—January 1 | $10,000 |
| Net income | 12,500 |
| Dividends | (7,500) |
| Retained earnings—December 31 | $15,000 |

# Statement of Cash Flows

It is important to know your cash flow so that you may adequately plan your expenditures. Should there be a cut back on payments because of a cash problem? Is the organization getting most of your cash? What products or projects are cash drains or cash cows? Is there enough money to pay bills and buy needed machinery?

All business enterprises and not-for-profit organizations are required to prepare a statement of cash flows in its annual report. It contains useful information for external users, such as lenders and investors, who make economic decisions about a company. The statement presents the sources and uses of cash and is a basis for cash flow analysis. It is intended to help users of financial statements evaluate a firm's liquidity and solvency. In this section, we discuss what the statement of cash flows is, how it looks, and how to analyze it.

## Contents of the Statement of Cash Flows

The statement of cash flows classifies cash receipts and cash payments arising from investing activities, financing activities, and operating activities.

### *Investing Activities*

Investing activities include the results of the purchase or sale of debt and equity securities of other entities and fixed assets. Cash inflows from investing activities are comprised of (1) receipts from sales of equity and debt securities of other companies and (2) amounts received from the sale of fixed assets. Cash outflows for investing activities include (1) payments to buy equity or debt securities of other companies and (2) payments to buy fixed assets.

### *Financing Activities*

Financing activities include the issuance of stock and the reacquisition of previously issued shares (treasury stock), as well as the payment of dividends to stockholders. Also included are debt financing and repayment. Cash inflows from financing activities are comprised of funds received from the sale of stock and the incurrence of debt. Cash outflows for financing activities include (1) repaying debt, (2) repurchasing of stock, and (3) issuing dividend payments.

### *Operating Activities*

Operating activities are connected to the manufacture and sale of goods or the rendering of services. Cash inflows from operating activities include (1) cash sales or collections on receivable arising from the initial sale of merchandise or rendering of service and (2) cash receipts from debt securities (e.g., interest income) or equity securities (e.g., dividend income) of other entities. Cash outflows for operating activities include (1) cash paid for raw material or merchandise intended for resale, (2) payments on accounts payable arising from the initial purchase of goods, (3) payments to suppliers of operating expense items (e.g., office supplies, advertising, insurance), and (4) wages. Figure 1-5 shows an outline of the statement of cash flows.

**Figure 1-5**
**The Statement of Cash Flows**

*FORMAT OF THE STATEMENT OF CASH FLOWS (INDIRECT METHOD)*

| | | |
|---|---|---|
| Net cash flow from operating activities: | | |
| Net income | $980,000 | |
| Adjustments for noncash expenses, revenues, losses, and gains included in income: | | |
| Depreciation | 20,000 | |
| Net cash flow from operating activities | | $1,000,000 |
| Cash flows from investing activities: | | |
| Purchase machinery | $(630,000) | |
| Investments in other companies' stocks | ( 70,000) | |
| Sale of land | 200,000 | |
| Net cash flows provided (used) by investing activities | | (500,000) |
| Cash flows from financing activities: | | |
| Issuance of common stock | $ 400,000 | |
| Issuance of bonds payable | 100,000 | |
| Payment on long-term mortgage payable | (160,000) | |
| Payment of dividends | ( 40,000) | |
| Net cash provided (used) by financing activities | | 300,000 |
| Net increase (decrease) in cash | | $800,000 |
| Schedule of noncash investing and financing activities: | | |
| Issuance of preferred stock for building | | $180,000 |
| Conversion of bonds payable to common stock | | 100,000 |

## Cash Flow Analysis

Along with financial ratio analysis (discussed in Chapter 3 and 4), cash flow analysis is a valuable tool. The cash flow statement provides information on how your company generated and used cash, that is, why cash flow increased or decreased. An analysis of the statement is helpful in appraising past performance, projecting the company's future direction, forecasting liquidity trends, and evaluating your company's ability to satisfy its debts at maturity. Because the statement lists the specific sources and uses of cash during the period, it can be used to answer the following:

- How was the expansion in plant and equipment financed?
- What use was made of net income?
- Where did you obtain funds?
- How much required capital is generated internally?
- Is the dividend policy in balance with its operating policy?
- How much debt was paid off?
- How much was received from the issuance of stock?
- How much debt financing was taken out?

The cash flow per share equals net cash flow divided by the number of shares. A high ratio is desirable because it indicates a liquid position, that is, that the company has ample cash on hand.

### *Operating Section*

An analysis of the operating section of the statement of cash flows determines the adequacy of cash flow from operating activities. For example, an operating cash outlay for refunds given to customers for deficient goods indicates a quality problem with the merchandise, while payments of penalties, fines, and lawsuit damages reveal poor management practices that result in nonbeneficial expenditures.

### *Investing Section*

An analysis of the investing section can identify investments in other companies. These investments may lead to an attempt to assume control of another company for purposes of diversification. The analysis may also indicate a change in future direction or a change in business philosophy.

An increase in fixed assets indicates capital expansion and future growth. A contraction in business arising from the sale of fixed assets without adequate replacement is a negative sign.

### *Financing Section*

An evaluation of the financing section reveals the company's ability to obtain financing in the money and capital markets as well as its ability to meet obligations. The financial mixture of bonds, long-term loans from banks, and equity instruments affects risk and the cost of financing. Debt financing carries greater risk because the company must generate adequate funds to pay the interest costs and to retire the obligation at maturity; thus, a very high percent of debt to equity is generally not advisable. The problem is acute if earnings and cash flow are declining. On the other hand, reducing long-term debt is desirable because it points to lowered risk.

The ability to obtain financing through the issuance of common stock at attractive terms (high stock price) indicates that the investing public is optimistic about the financial well-being of the business. The issuance of preferred stock may be a negative sign, since it may mean the company is having difficulty selling its common stock. Perhaps investors view the company as very risky and will invest only in preferred stock since preferred stock has a preference over common stock in the event of the company's liquidation.

## Preparing and Analyzing the Statement of Cash Flows

In this section, we do an analysis of a hypothetical statement of cash flows, prepared from sample balance sheet and income statement figures.

**EXAMPLE 1-1** - X Company provides the following financial statements:

**X Company**
Comparative Balance Sheets
December 31
(in millions)

| ASSETS | 20X1 | 20X0 |
|---|---|---|
| Cash | $ 40 | $ 47 |
| Accounts receivable | 30 | 35 |
| Prepaid expenses | 4 | 2 |
| Land | 50 | 35 |
| Building | 100 | 80 |
| Accumulated depreciation | (9) | (6) |
| Equipment | 50 | 42 |
| Accumulated depreciation | (11) | (7) |
| Total assets | $254 | $228 |
| LIABILITIES AND STOCKHOLDERS' EQUITY | | |
| Accounts payable | $ 20 | $ 16 |
| Long-term notes payable | 30 | 20 |
| Common stock | 100 | 100 |
| Retained earnings | 104 | 92 |
| Total liabilities and stockholders' equity | $254 | $228 |

**X Company**
Income Statement
for the Year Ended December 31, 20X1
(in millions)

| | | |
|---|---|---|
| Revenue | | $300 |
| Operating expenses (excluding depreciation) | $200 | |
| Depreciation | 7 | 207 |
| Income from operations | | $ 93 |
| Income tax expense | | 32 |
| Net income | | $ 61 |

## X Company

Comparative Balance Sheets
December 31
(in millions)

| ASSETS | 2X12 | 2X11 |
|---|---|---|
| Cash | $ 40 | $ 47 |
| Accounts receivable | 30 | 35 |
| Prepaid expenses | 4 | 2 |
| Land | 50 | 35 |
| Building | 100 | 80 |
| Accumulated depreciation | (9) | (6) |
| Equipment | 50 | 42 |
| Accumulated depreciation | (11) | (7) |
| Total assets | $254 | $228 |
| LIABILITIES AND STOCKHOLDERS' EQUITY | | |
| Accounts payable | $ 20 | $ 16 |
| Long-term notes payable | 30 | 20 |
| Common stock | 100 | 100 |
| Retained earnings | 104 | 92 |
| Total liabilities and stockholders' equity | $254 | $228 |

## X Company

Income Statement
for the Year Ended December 31, 2X12
(in millions)

| | | |
|---|---|---|
| Revenue | | $300 |
| Operating expenses | | |
| (excluding depreciation) | $200 | |
| Depreciation | 7 | 207 |
| Income from operations | | $ 93 |
| Income tax expense | | 32 |
| Net income | | $ 61 |

**X Company**
Statement of Cash Flows
for the Year Ended December 31, 2X12
(in millions)

| | | | |
|---|---|---|---|
| Operating activities: | | | |
| Net income | | | $61 |
| Adjustments to reconcile net income to cash provided by operating activities: | | | |
| Depreciation | | $ 7 | |
| Changes in operating assets and liabilities: | | | |
| Decrease in accounts receivable | | 5 | |
| Increase in prepaid items | | (2) | |
| Increase in accounts payable | | 4 | |
| Cash provided by operating activities | | | 75 |
| Cash flow from investing activities | | | |
| Purchase of land | ($15) | | |
| Purchase of building | ( 20) | | |
| Purchase of equipment | ( 8) | | (43) |
| Cash flow from financing activities | | | |
| Issuance of long-term notes payable | $10 | | |
| Payment of cash dividends | ( 49) | | (39) |
| Net decrease in cash | | | $ 7 |

Assume the company has a policy of paying very high dividends.

Information for 2X11 follows: Net income, $32; cash flow from operations, $20.

A financial analysis of the statement of cash flows reveals that the profitability and operating cash flow of X Company improved from 2X11 to 2X12. The company's earnings performance was good, and the $61 earnings resulted in cash inflow from operations of $75. Thus, compared to 2X11, 2X12 showed better results.

The decrease in accounts receivable may reveal better collection efforts. The increase in accounts payable is a sign that suppliers are confident they will be paid and are willing to give interest-free financing. The acquisition of land, building, and equipment points to a growing business undertaking capital expansion. The issuance of long-term notes payable indicates that the company is financing part of its assets through debt. Stockholders will be happy with the significant dividend payout of 80.3 percent (dividends divided by net income, or $49/$61). Overall, there was a decrease in cash on hand of $7, but this should not cause alarm because of the company's profitability and the fact that cash was used for capital expansion and dividend payments. We recommend that the dividend payout be reduced from its high level and that the funds be reinvested in the business; the reduction of dividends by more than $7 would result in a positive net cash flow for the year, which is needed for immediate liquidity.

**EXAMPLE 1-2** Y Company presents the following statement of cash flows.

**Y Company**
Statement of Cash Flows
for the Year Ended December 31, 2X12

| | | |
|---|---|---|
| Operating activities: | | |
| Net income | | $134,000 |
| Adjustments to reconcile net income to cash provided by operating activities: | | |
| Depreciation | $21,000 | |
| Changes in operating assets and liabilities: | | |
| Decrease in accounts receivable | 10,000 | |
| Increase in prepaid items | (6,000) | |
| Increase in accounts payable | 35,000 | 60,000 |
| Cash provided by operating activities | | $194,000 |
| Cash flows from investing activities | | |
| Purchase of land | ($70,000) | |
| Purchase of building | (200,000) | |
| Purchase of equipment | (68,000) | |
| Cash used by investing activities | | (338,000) |
| Cash flows from financing activities | | |
| Issuance of bonds | 150,000 | |
| Payment of cash dividends | (18,000) | |
| Cash provided by financing activities | | 132,000 |
| Net decrease in cash | | $(12,000) |

An analysis of the statement of cash flows reveals that the company is profitable and that cash flow from operating activities exceeds net income, which indicates good internal cash generation. The ratio of cash flow from operating activities to net income is a solid 1.45 ($194,000/$134,000). A high ratio is desirable because it shows that earnings are backed up by cash. The decline in accounts receivable may indicate better collection efforts; the increase in accounts payable shows the company can obtain interest-free financing. The company is definitely in the process of expanding for future growth, as demonstrated by the purchase of land, building, and equipment. The debt position of the company has increased, indicating greater risk for investors. The dividend payout was 13.4 percent ($18,000/$134,000), which is good news for stockholders, who look positively on companies that pay dividends. The decrease of $12,000 in cash flow for the year is a negative sign.

## Statement of Cash Flows and Corporate Planning

Current profitability is only one important factor in predicting corporate success; current and future cash flows are also essential. In fact, it is possible for a profitable company to have a cash crisis; for example, a company with significant credit sales but a very long collection period may show a profit without actually having the cash from those sales.

Financial managers are responsible for planning how and when cash will be used and obtained. When planned expenditures require more cash than planned activities are likely to produce, financial managers must decide what to do. They may decide to obtain debt or equity funds or to dispose of some fixed assets or a whole business segment. Alternatively, they may decide to cut back on planned activities by modifying operational plans, such as ending a special advertising campaign or delaying new acquisitions, or to revise planned payments to financing sources, such as bondholders or stockholders. Whatever is decided, the financial manager's goal is to balance the cash available and the needs for cash over both the short and the long term.

Evaluating the statement of cash flows is essential if you are to appraise accurately an entity's cash flows from operating, investing, and financing activities and its liquidity and solvency positions. Inadequacy in cash flow has possible serious implications, including declining profitability, greater financial risk, and even possible bankruptcy.

## *Chapter 1 Review Questions*

1. Which of the following is NOT one of the basic financial statements in an annual report?

A. The balance sheet.
B. The income statement.
C. The statement of cash flows.
D. The performance report.

2. The primary purpose of the balance sheet is to reflect

A. The fair value of the firm's assets at some moment in time.
B. The status of the firm's assets in case of forced liquidation of the firm.
C. Assets, liabilities, and equity.
D. The firm's potential for growth in stock values in the stock market.

3. A financial statement includes all of the following items: operating activities, financial activities and investing activities. What financial statement is this?

A. Statement of cash flows.
B. Balance sheet.
C. Income statement.
D. Statement of retained earnings.

4. A statement of cash flows is intended to help users of financial statements

A. Evaluate a firm's liquidity, solvency, and financial flexibility.
B. Evaluate a firm's economic resources and obligations.
C. Determine a firm's components of income from operations.
D. Determine whether insiders have sold or purchased the firm's stock.

5. Which of the following would be classified as a current liability?

A. Accounts payable
B. Land
C. Capital stock
D. Accounts receivable

# Chapter 2:

# Annual Report: Other Sections of the Report

## Learning objectives

After reading this chapter, you should be able to

- Identify the other sections and items of the annual report.
- Define what management’s discussion and analysis (MD&A) involves.
- Recognize auditing standards for internal control over financial reporting, including the Sarbanes-Oxley Act.

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Other sections in the annual report in addition to the financial statements are helpful in understanding the company's financial health. These sections include the highlights, review of operations, footnotes, supplementary schedules, auditor's report, and management discussion and analysis (MD&A).

## Other Sections in the Annual Report

### Highlights

The highlights section provides comparative financial statement information and covers important points such as profitability, sales, dividends, market price of stock, and asset acquisitions.  At a minimum, the company provides sales, net income, and earnings per share figures for the last two years.

### Review of Operations

The review of operations section discusses the company's products, services, facilities, and future directions in both numbers and narrative form.

## Auditor’s Report

The independent accountant is a certified public accountant (CPA) in public practice who has no financial or other interest in the client whose financial statements are being examined. In this part of the annual report, he or she expresses an opinion on the fairness of the financial statement numbers.

CPAs render four types of audit opinions: an unqualified opinion, an unqualified opinion with explanatory paragraph or modified wording, a qualified opinion, and an adverse or disclaimer of opinion. The auditor's opinion is heavily relied on since he or she is knowledgeable, objective, and independent.

### *Unqualified Opinion*

An unqualified opinion means the CPA is satisfied that the company's financial statements present fairly its financial position and results of operations and gives the financial manager confidence that the financial statements are an accurate reflection of the company's financial health and operating performance.

A typical standard report presenting an unqualified opinion follows.

**Independent Auditor's Report**

Board of Directors and Shareholders:

We have audited the accompanying Consolidated Balance Sheet of PepsiCo, Inc. and Subsidiaries as of December 25, 2011 and December 27, 2010 and the related Consolidated Statements of Income, Cash Flows and Common Shareholders’ Equity for each of the years in the three-year period ended December 25, 2011. We have also audited management’s assessment, included in the accompanying Management’s Report on Internal Control over Financial Reporting, that PepsiCo, Inc. and Subsidiaries maintained effective internal control over financial reporting as of December 25, 2011, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). PepsiCo, Inc.’s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting. Our responsibility is to express an opinion on these consolidated financial statements, an opinion on management’s assessment, and an opinion on the effectiveness of PepsiCo, Inc.’s internal control over financial reporting based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audit of financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, evaluating management's assessment, testing and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

If the company is facing a situation with an uncertain outcome that may substantially affect its financial health, such as a lawsuit, the CPA may still give an unqualified opinion. However, there will probably be an explanatory paragraph describing the material uncertainty; this uncertainty will undoubtedly affect readers' opinions of the financial statement information. As a financial manager, you are well advised to note the contingency (potential problem, such as a dispute with the government) and its possible adverse financial effects on the company.

### *Unqualified Opinion with Explanatory Paragraph or Modified Wording*

This opinion meets the criteria of a complete audit with satisfactory results and financial statements that are fairly presented, but the auditor believes that it is important or is required to provide additional information.

### *Qualified Opinion*

The CPA may issue a qualified opinion if your company has placed a "scope limitation" on his or her work. A scope limitation prevents the independent auditor from doing one or more of the following: (1) gathering enough evidential matter to permit the expression of an unqualified opinion; (2) applying a required auditing procedure; or (3) applying one or more auditing procedures considered necessary under the circumstances.

If the scope limitation is fairly minor, the CPA may issue an "except for" qualified opinion. This may occur, for example, if the auditor is unable to confirm accounts receivable or observe inventory.

### *Adverse or Disclaimer of Opinion.*

The auditor may issue an *adverse* opinion when the financial statements do *not* present the company's financial position, results of operations, retained earnings, and cash flows fairly and in conformity with GAAP. An adverse opinion is expressed when the financial statements, taken as a whole, are not presented fairly in accordance with GAAP. When a severe scope limitation exists, the auditor may decide to offer a *disclaimer* of opinion. A disclaimer indicates that the auditor was unable to form an opinion on the fairness of the financial statements or he or she is not independent.

Obviously, the financial manager wants the independent auditor to render an unqualified opinion. Disclaimers and adverse opinions are viewed very negatively by readers such as investors and creditors, who then put little if any faith in the company's financial statements.

*Note:* Management has the responsibility to adopt sound accounting policies and to establish and maintain internal controls that will record, process, summarize, and report transactions, events, and conditions consistent with the assertions in the financial statements. The fairness of the representations made therein is the responsibility of management alone because the transactions and the related assets, liabilities, and equity reflected are within management's direct knowledge and control.

## Notes to the Financial Statements (Footnotes)

Notes to the financial statements, or footnotes for short, are the means of amplifying or explaining the items presented in the main body of the statements. Financial statements themselves are concise and condensed, and any explanatory information that cannot readily be abbreviated is added in greater detail in the footnotes. In such cases, the report contains a statement similar to this: "The accompanying footnotes are an integral part of the financial statements."

Footnotes provide detailed information on financial statement figures, accounting policies, explanatory data such as mergers and stock options, and any additional disclosure.

Footnote disclosures usually include accounting methods, estimated figures such as pension fund, and profit-sharing arrangements, terms and characteristics of long-term debt, particulars of lease agreements, contingencies, and tax matters. The Summary of Significant Accounting Polices answers such questions as: What method of depreciation is used on plant assets? What valuation method is employed on inventories? What amortization policy is followed in regard to intangible assets? How are marketing costs handled for financial reporting purposes?

The footnotes appear at the end of the financial statements and explain the figures in those statements both in narrative form and in numbers. It is essential that the financial manager evaluate footnote information to arrive at an informed opinion about the company's financial stature and earning potential.

## Supplementary Schedules and Tables

Supplementary schedules and tables enhance the financial manager's comprehension of the company's financial position. Some of the more common schedules are five-year summary of operations, two-year quarterly data, and segmental information.  This summary provides income statement information for the past five years, including dividends on preferred stock and common stock. It also reveals operating trends. Some companies provide ten-year comparative data.

### *Two-Year Quarterly Data*

This schedule gives a quarterly breakdown of sales, profit, high and low stock price, and the common stock dividend. Quarterly operating information is particularly useful for a seasonal business, because it helps readers to track the business's highs and lows more accurately. The quarterly market price reveals fluctuations in the market price of stock, while the dividend quarterly information reveals how regularly the company pays dividends.

## *Segmental Disclosure*

This important supplementary schedule presents financial figures for the segments of the business, enabling readers to evaluate each segment's profit potential and risk. Segmental data may be organized by industry, foreign area, major customer, or government contract.

A segment is reportable if any one of the following conditions exists:

- Revenue is 10 percent or more of total corporate revenue.
- Operating profit is 10 percent or more of total corporate operating profit.
- Identifiable assets are 10 percent or more of total corporate assets.

The company must also disclose if foreign operations, sales to a major customer, or domestic contract revenue provide 10 percent or more of total sales. The percentage derived and the source of the sales must be stated.

Useful segment information that may be disclosed includes sales, operating profit, total assets, fixed assets, intangible assets, inventory, cost of sales, depreciation, and amortization.

Figure 2-1 presents a sample segmented income statement.

**Figure 2-1**
**Segmented Income Statement**

**OFFICE EQUIPMENT AND AUTO PARTS COMPANY**
**INCOME STATEMENT DATA**
**(IN MILLIONS)**

| | Consolidated | Office Equipment | Auto Parts |
|---|---|---|---|
| Net sales | $78.8 | $18.0 | $60.8 |
| Manufacturing costs | | | |
| Inventories, beginning | 12.3 | 4.0 | 8.3 |
| Materials and services | 38.9 | 10.8 | 28.1 |
| Wages | 12.9 | 3.8 | 9.1 |
| Inventories, ending | (13.3) | (3.9) | (9.4) |
| | 50.8 | 14.7 | 36.1 |
| Selling and administrative expense | 12.1 | 1.6 | 10.5 |
| Total operating expenses | 62.9 | 16.3 | 46.6 |
| Income before taxes | 15.9 | 1.7 | 14.2 |
| Income taxes | (9.3) | (1.0) | (8.3) |
| Net income | $ 6.6 | $ 0.7 | $ 5.9 |

### *History of Market Price*

While this information is optional, many companies provide a brief history of the market price of stock, such as quarterly highs and lows. This information reveals the variability and direction in market price of stock.

## How to Read a Quarterly Report

In addition to the annual report, publicly-held companies issue quarterly reports (form 10-K) that provide updated information on sales and earnings and describe any *material* changes that have occurred in the business or its operations. These quarterly reports may provide unaudited financial statements or updates on operating highlights, changes in outstanding shares, compliance with debt restrictions, and pending lawsuits. *Note*: The Securities and Exchange Commission' defines materiality as a change in an account of 10 percent or more relative to the prior year. However, many CPA firms use 5 percent as a materiality guideline.

At a minimum, quarterly reports must provide data on sales, net income, taxes, nonrecurring revenue and expenses, accounting changes, contingencies (e.g., tax disputes), additions or deletions of business segments, and material changes in financial position.

The company may provide financial figures for the quarter itself (e.g., the third quarter, from July 1 to September 30) or cumulatively from the beginning of the year (cumulative up to the third quarter, or January 1 to September 30). Prior-year data must be provided in a form that allows for comparisons. The financial manager should read the quarterly report in conjunction with the annual report.

# SEC Reporting Requirements: Integrated Disclosure System

The SEC adopted the Integrated Disclosure System, which requires the Basic Information Package (BIP).

The BIP consists of the following:

- Audited balance sheets for the last two years and audited statements of income, retained earnings, and cash flows for the most recent three years.
- A five-year summary containing certain selected financial data.
- Management's discussion and analysis (MD&A) of the entity's financial condition and results of operations.

## S Forms

*Form S-1:* Form S-1 is normally used by any entity that desires to issue a public offering and that has been subject to the SEC reporting requirements for less than three years. Some of the more common items required to be disclosed in Form S-1 are:

- A synopsis of the business, including relevant industry and segment information, cash flows, liquidity, and capital resources.
- A listing of properties and risk factors.
- Background and financial information pertaining to the entity's directors and officers, including pending litigation involving management, and compensation arrangements.
- A description of the securities being registered.
- Identification of major underwriters.

Form S-1 also requires the disclosure of a five-year summary of selected financial data, which need not be audited by the independent certified public accountant. The data to be presented include the following items:

- Net sales or revenues.
- Total income or loss from continuing operations.
- Per-share income or loss from continuing operations.
- Total assets of the entity.
- Long-term debt, including capital leases and redeemable preferred stock.
- Declared cash dividends on a per-common-share basis.
- Disagreements with the independent certified public accounting firm.

S-1 is presented in textual form in two parts: the first is the prospectus, and the second contains supplementary and procedural information.

*Form S-3:* Form S-3 may generally be used by a company that passes the ''float test.'' In other words, at least $150 million of voting stock is owned by nonaffiliates. Form S-3 may also be used if the entity has a float of $100 million accompanied by an annual trading volume of 3 million shares. Annual trading volume is the number of shares traded during a recurring 12-month period culminating within 60 days before the filing.

Form S-3 is an abbreviated form, because the public already has much of the information that would normally be required to be included. Accordingly, Form S-3 provides for incorporation by reference.

*Form S-4:* Form S-4 is applicable in registrations of securities in connection with such business combinations as mergers, consolidations, and asset acquisitions. Form S-4 also provides for incorporation by reference to the 1934 Act reports.

*Form S-8:* When registering securities to be offered to employees pursuant to an employee benefit plan, Form S-8 should be filed. Information presented in Form S-8 is normally limited to a description of the securities and the employee benefit plan. Disclosure is also made about the registrant, although this information is made available through other reports required by the 1934 Act.

*Form S-18:* A company whose objective is to raise capital of $7.5 million or less may file a registration statement using Form S-18. Disclosures presented in Form S-18 are quite similar to those required in Form S-1. One difference between the two forms is that management's discussion and analysis is not required. Additionally, only one year's audited balance sheet and two years' audited statements of income and cash flows are required.

## Management's Discussion and Analysis (MD&A)

The Management's Discussion and Analysis (MD&A) section of an annual report must be included in SEC filings. The content of the MD&A section is required by regulations of the SEC. The MD&A contains standard financial statements and summarized financial data for at least 5 years. Other matters must be included in annual reports to shareholders and in Form 10-K filed with the SEC. It addresses in a nonquanitified manner the prospects of the company. The SEC examines it with care to determine that management has disclosed material information affecting the company's future results.

To accomplish this, the following items must be disclosed:

- Liquidity.
- Capital resources.
- Results of operations.
- Positive and negative trends.
- Significant uncertainties.
- Events of an unusual or infrequent nature.
- Underlying causes of material changes in financial statement items.
- A narrative discussion of the material effects of inflation.

Forward-looking information (a forecast) is encouraged but not required. The SEC's *safe harbor rule* protects a company that issues an erroneous forecast if it is prepared on a reasonable basis and in good faith.

The information required by the SEC to be reported in Part II of Form 10-K and in the annual report includes a 5-year summary of selected financial data. The required data include net sales or operating revenues, income from continuing operations, total assets, long-term obligations, redeemable preferred stock, and cash dividends per share. If trends are relevant, management's discussion and analysis should emphasize the summary. Favorable and unfavorable trends and significant events and uncertainties should be identified.

Figure 2-2 presents Eastman Kodak's MD&A.

**Figure 2-2**
**Management's Discussion and Analysis**
**Eastman Kodak Company**

| **OVERVIEW** |
|---|
| |
| Kodak is the world's foremost imaging innovator and generates revenue and profits from the sale of products, technology, solutions and services to consumers, businesses and creative professionals. The Company's portfolio is broad, including image capture and output devices, consumables and systems and solutions for consumer, business, and commercial printing applications. Kodak has three reportable business segments, which are more fully described later in this discussion in "Kodak Operating Model and Reporting Structure." The three business segments are: Consumer Digital Imaging Group ("CDG"), Graphic Communications Group ("GCG") and Film, Photofinishing and Entertainment Group ("FPEG"). |
| The Company's digital growth strategy is centered around exploiting our competitive advantage at the intersection of materials science and digital imaging science. The Company has leading market positions in large markets including digital printing plates, scanners, digital still and video cameras, and kiosks. In addition, the Company has been introducing differentiated value propositions in new growth markets that are in need of transformation. The Company's four growth initiatives are: consumer inkjet, within CDG, and commercial inkjet, workflow software and services, and packaging solutions within GCG. |
| While these four growth initiatives have largely been in an investment mode, revenue in these product lines grew 18% for the full year. The Company will continue to gain scale in these product lines to enable a more significant and profitable contribution from them. |
| Competitive pricing and rising commodity costs negatively impacted results in Kodak's more mature product lines, including Prepress Solutions, Digital Capture and Devices, and Entertainment Imaging. The Company is addressing these challenges through a variety of means including the introduction of new differentiated products and pricing and hedging strategies. |

Kodak entered into three significant intellectual property arrangements during the year. Each of these agreements was in line with the three fundamental objectives of the Company's intellectual property licensing program, which are design freedom, gaining access to new markets and partnerships, and generating cash and earnings. The Company recognized revenue amounting to $838 million from these licenses in the year ended December 31, 2010.

## The Sarbanes-Oxley Act

Section 404(b) of the Sarbanes-Oxley (SOX) Act - "Enhanced Financial Disclosures, Management Assessment of Internal Control" — mandates sweeping changes. Section 404(b), in conjunction with the related SEC rules and Auditing Standard (AS) No. 5, *An Audit of Internal Control over Financial Reporting Performed in Conjunction with an Audit of Financial Statements (*Auditing Standard No. 2), established by the Public Company Accounting Oversight Board (PCAOB), requires the audit of internal control to be integrated with the audit of the financial statements. This integration must be included in the company's annual report filed with the Securities and Exchange Commission (SEC).

- *Management must report annually on the effectiveness of the company's internal control over financial reporting.*
- *In conjunction with the audit of the company's financial statements, the company's independent auditor must issue a report on internal control over financial reporting, which includes both an opinion on management's assessment and an opinion on the effectiveness of the company's internal control over financial reporting.*

In the past, a company's internal controls were considered in the context of planning the audit but were not required to be reported publicly, except in response to the SEC's Form 8-K requirements when related to a change in auditor. The new audit and reporting requirements have drastically changed the situation and have brought the concept of internal control over financial reporting to the forefront for audit committees, management, auditors, and users of financial statements.

The Auditing Standard No. 5 highlight the concept of a significant deficiency in internal control over financial reporting, and mandate that both management and the independent auditor must publicly report any material weaknesses in internal control over financial reporting that exist as of the fiscal year-end assessment date. Under both PCAOB Auditing Standard No. 2 and the SEC rules implementing Section 404, the existence of a single material weakness requires management and the independent auditor to conclude that internal control over financial reporting is not effective. The main features of the AS No. 5 are summarized later in the chapter.

### *How will the reporting model differ from historical reporting?*

In the past, the independent auditor provided an opinion on whether the company's financial statements were presented fairly in all material respects, in accordance with GAAP. The new reporting model maintains this historical requirement for the auditor to express an opinion on the financial statements. Section 404 also institutes additional requirements for management and the independent auditor to report on the effectiveness of internal control over financial reporting, as shown below:

**Historical Reporting**

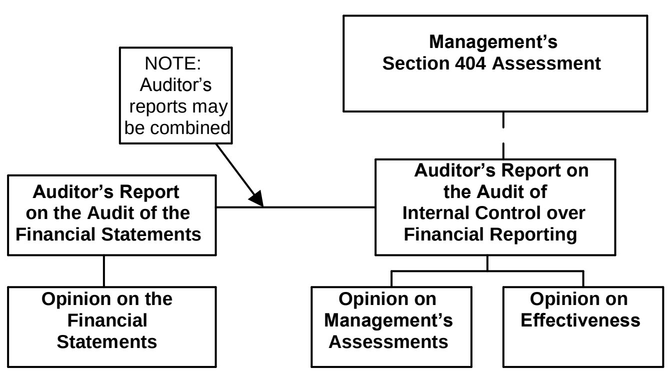
- Independent auditor's opinion on 'whether the financial statements are presented fairly in all material respects, in accordance with GAAP.

**New Reporting**

- *Management's report* on its assessment of the effectiveness of the company's internal control over financial reporting.
- *Independent auditor's report* on internal control over financial reporting, including the auditor's opinions on: (1) whether management's assessment is fairly stated in all material respects (i.e., whether the auditor concurs with management's conclusions about the effectiveness of internal control, over financial reporting), and (2) the effectiveness of the company's internal control over financial reporting.

The auditor may choose to issue separate reports, such as the *separate report on internal control over financial reporting*, or in a combined report. The *combined report on financial statements and internal control over financial reporting* addresses both the financial statements and management's report on internal control over financial reporting. While the combined report is permitted, the separate report is more common. Figure 2-3 identifies the various reports, and reflects the fact that management's assessment of internal control over financial reporting constitutes the starting point for the auditor's reporting.

**Figure 2-3**
**Section 404 Reporting**



## *What will management's report include?*

Neither the SEC nor the PCAOB has issued a standard or illustrative management report on internal control over financial reporting; thus, there may be differences in the nature and extent of the information companies provide. We advise companies to consult with legal counsel on these matters. At a minimum, management's report on internal control over financial reporting should include the following information:

- *Statement of management's responsibility for establishing and maintaining adequate internal control over financial reporting.*
- *Statement identifying the framework used by management to evaluate the effectiveness of internal control over financial reporting.*
- *Management's assessment of the effectiveness of the company's internal control over financial reporting as of the end of the company's most recent fiscal year, including an explicit statement as to whether that internal control is effective and disclosing any material weaknesses identified by management in that control.*
- *Statement that the registered public accounting firm that audited the financial statements included in the annual report has issued an attestation report on management's internal control assessment.*

Management's report must indicate that internal control over financial reporting is either:

- **Effective** - Internal control over financial reporting is effective (i.e., no material weaknesses in internal control over financial reporting existed as of the assessment date); or
- **Ineffective** - Internal control is not effective because one or more material weaknesses existed as of management's assessment date.

Management is required to state *whether or not* the company's internal control over financial reporting is effective. A negative assurance statement, such as "nothing has come to management's attention to suggest internal control is ineffective" is not acceptable.

If a material weakness exists as of the assessment date, management is required to conclude that internal control over financial reporting is not effective and to disclose all material weaknesses that may have been identified. The SEC Chief Accountant has stated publicly that he expects management's report to disclose the nature of any material weakness in sufficient detail to enable investors and other financial statement users to understand the weakness and evaluate the circumstances underlying it.

Management may not express a qualified conclusion, such as stating that internal control is effective except to the extent certain problems have been identified. If management is unable to assess certain aspects of internal control that arc material to overall control effectiveness, management must conclude that internal control over financial reporting is ineffective. Although management cannot issue a report with a scope limitation, under specific conditions newly acquired businesses or certain other consolidated entities may he excluded from the assessment.

**SOX in Action:**

In response to the requirements of the Sarbanes-Oxley Act of 2002, companies are placing a renewed focus on their accounting systems to ensure relevant and reliable information is reported in financial statements. One study of first compliance with the internal-control testing provisions of the SOX documented material weaknesses for about 13 percent of companies reporting in 2004 and 2005. In 2006, material weaknesses declined, with just 8.33 percent of companies reporting internal control problems. At the same time, companies reported a 5.4 percent decline in audit costs to comply with Sarbanes-Oxley internal control audit requirements.

*Sources*: L. Townsend, "Internal Control Deficiency Disclosures—Interim Alert," Yellow Card—Interim Trend Alert (April 12, 2005), Glass, Lewis & Co., LLC. K. Pany and J. Zhang, "Current Research Questions on Internal Control over Financial Reporting Under Sarbanes-Oxley," The CPA Journal (February 2008), p. 42. FEI Audit Fee Survey: Including Sarbanes-Oxley Section 404 Costs (April 2008).

Figure 2-4 shows Pepsi Co.’s Management’s Report on Internal Control over Financial Reporting and certification.

## Key Points of Auditing Standard No. 5

### *1. Focus the audit of internal control over financial reporting on the most important matters*

AS5 articulates a key principle that a direct relationship exists between the risk of material weakness and the amount of auditor attention given to that area. It requires auditors to use a top-down, risk-based approach, beginning with the financial statements and company-level controls, and requires the auditor to perform a walk-through for each significant process before selecting the controls to test. Using this assessment, the auditor selects the controls to test based on the risk of a material weakness. AS5 emphasizes the integration of the financial statement audit with the audit of internal control over financial reporting.

### *2. Provide explicit and practical guidance on scaling the audit to fit the size and complexity of the company*

These provisions do not create a separate standard for smaller companies. Instead, AS5 explicitly requires the auditor to tailor the nature, extent and timing of testing to meet the unique characteristics of smaller companies.

### *3. Eliminate procedures that are unnecessary to achieve the intended benefits*

AS5 links the testing of specific controls to a risk assessment of that control. This means that the risk of a specific control not being effective should drive the nature, extent and timing of testing performed and evidence of effectiveness obtained for that control.

### *4. Require auditors to consider whether and how to use the work of others*

AS5 allows auditors to place greater reliance on testing completed by management and the internal audit function. The scope of the new Auditing Standard applies to both the audit of internal control over financial reporting as well as the audit of financial statements -- eliminating a barrier to the integrated audit.

### *5. Incorporate guidance on efficiency*

Many of the audit efficiency practices outlined in its May 16, 2005, guidance are contained in the new Standard. AS5 specifically includes the language from the May 16 guidance regarding the baselining of IT controls. As a result, companies can leverage this guidance to reduce compliance costs on a year-over-year basis.

### *6. A simplified standard*

AS5 changes the definitions of material weakness from “more than remote” to “reasonably possible"and significant deficiency from “more than inconsequential” to “significant.” AS5 defines “significant” as “less than material but merits the attention of those with the responsibility for the oversight of financial reporting.” In other words, significant deficiencies are not material weaknesses but items that those responsible for oversight need to know about

## Conclusion

The financial manager should have a good understanding of the financial statements of the company in order to make an informed judgment on the financial position and operating performance of the entity. The balance sheet reveals the company's financial status as of a given date, while the income statement reports the earnings components for the year. The statement of cash flows allows readers to analyze the company's sources and uses of cash. These financial statements are included in the annual report, along with other vital information including footnote disclosures, the auditor's report, management's discussion of operations, and supplementary schedules. *Note:* You can find these documents in the quarterly financial statements called the 10-Q, and annual financial statements, the 10-K, which the company files with the SEC.  The SEC has authority to regulate external financial reporting. Nevertheless, its traditional role has been to promote disclosure rather than to exercise its power to establish accounting recognition and measurement principles. Its objective is to allow the accounting profession (through the FASB) to establish principles and then to ensure that corporations abide by those principles.

**Figure 2-4**
**Pepsi Co.'s Management's Report on**
**Internal Control over Financial Reporting**
**CERTIFICATION**

I, **Indra K. Nooyi,** certify that:

1. I have reviewed this annual report on Form 10-K of PepsiCo, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 18, 2011

Indra K. Nooyi

Chairman of the Board of Directors

and Chief Executive Officer

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I, **Hugh F. Johnston,** certify that:

1. I have reviewed this annual report on Form 10-K of PepsiCo, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal

control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 18, 2011

Hugh F. Johnston

Chief Financial Officer

**CERTIFICATION PURSUANT TO**
**SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of PepsiCo, Inc. (the "Corporation") on Form 10-K for the fiscal year ended December 25, 2010 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Indra K. Nooyi, Chairman of the Board of Directors and Chief Executive Officer of the Corporation, certify to my knowledge, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350), that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Corporation.

Date: February 18, 2011

/s/ Indra K. Nooyi

Indra K. Nooyi

Chairman of the Board of Directors

and Chief Executive Officer

## CERTIFICATION PURSUANT TO
## SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of PepsiCo, Inc. (the “Corporation”) on Form 10-K for the fiscal year ended December 25, 2010 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Hugh F. Johnston, Chief Financial Officer of the Corporation, certify to my knowledge, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350), that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Corporation.

Date: February 18, 2011

/s/ Hugh F. Johnston

Hugh F. Johnston

Chief Financial Officer

## *Chapter 2 Review Questions*

1. If the financial statements taken as a whole are not presented fairly in conformity with generally accepted accounting principles, the auditor must express which of the following opinions?

A. Unqualified opinion.
B. Qualified opinion.
C. Except for opinion.
D. Adverse opinion.

2. The responsibility for the proper preparation of a company's financial statements rests with its

A. Management.
B. Audit committee.
C. Internal auditors.
D. External auditors.

3. The content of the Management's Discussion and Analysis (MD&A) section of an annual report is

A. Mandated by pronouncements of the Financial Accounting Standards Board (FASB)
B. Mandated by regulations of the Securities and Exchange Commission (SEC).
C. Reviewed by independent auditors
D. Mandated by regulations of the Internal Revenue Service (IRS).

4. The Securities and Exchange Commission continues to encourage management to provide forward-looking information to users of financial statements and has a safe harbor rule that

A. Protects a company that may present an erroneous forecast as long as the forecast is prepared on a reasonable basis and in good faith.
B. Allows injured users of the forecasted information to sue the company for damages but protects management from personal liability.
C. Delays disclosure of such forward-looking information until all major uncertainties have been resolved.
D. Bars competition from using the information to gain a competitive advantage.

5. Regarding financial accounting for public companies, the role of the Securities and Exchange Commission (SEC) as currently practiced is to

A. Make rules and regulations regarding filings with the SEC but not to regulate annual or quarterly reports to shareholders.
B. Regulate financial disclosures for corporate, state, and municipal reporting.
C. Make rules and regulations pertaining more to disclosure of financial information than to the establishment of accounting recognition and measurement principles.
D. Develop and promulgate most generally accepted accounting principles.

# Chapter 3:

# Analysis of Financial Statements for Liquidity, Asset Utilization and Solvency

## Learning objectives

After reading this chapter, you should be able to:

- Identify important factors for financial statement analysis.
- Recognize techniques of horizontal analysis and vertical analysis.
- Define and apply some of the different types of ratio analysis.

This chapter covers how to analyze a company's financial statements comprising of the balance sheet and income statement. Financial statement analysis attempts to answer the following basic questions:

1. How well is the business doing?
2. What are its strengths?
3. What are its weaknesses?
4. How does it fare in the industry?
5. Is the business improving or deteriorating?

A complete set of financial statements, as explained in the previous chapter, will include the balance sheet, income statement, and statement of cash flows. The first two are vital in financial statement analysis. We will discuss the various financial statement analysis tools that you will use in evaluating the firm's present and future financial condition. These tools include horizontal, vertical, and ratio analysis, which give relative measures of the performance and financial condition of the company.

# The Purpose and Value of Financial Statement Analysis

The analysis of financial statements means different things to different people. It is of interest to creditors, present and prospective investors, and the firm's own management.

A *creditor* is primarily interested in the firm's debt-paying ability. A short-term creditor, such as a vendor or supplier is ultimately concerned with the firm's ability to pay its bills and therefore wants to be assured that the firm is liquid. A long-term creditor such as a bank or bondholder, on the other hand, is interested in the firm's ability to repay interest and principal on borrowed funds.

An *investor* is interested in the present and future level of return (earnings) and risk (liquidity, debt, and activity). You, as an investor, evaluate a firm's stock based on an examination of its financial statements. This evaluation considers overall financial health, economic and political conditions, industry factors, and future outlook of the company. The analysis attempts to ascertain whether the stock is overpriced, underpriced, or priced in proportion to its market value. A stock is valuable to you only if you can predict the future financial performance of the business. Financial statement analysis gives you much of the data you will need to forecast earnings and dividends.

*Management* must relate the analysis to all of the questions raised by creditors and investors, since these interested parties must be satisfied for the firm to obtain capital as needed.

## Horizontal and Vertical Analysis

Comparison of two or more years' financial data is known as *horizontal analysis*. Horizontal analysis concentrates on the trend in the accounts in dollar *and* percentage terms over the years. It is typically presented in comparative financial statements (see TLC, Inc. financial data in Figures 3-1 and 3-2). In annual reports, comparative financial data are usually shown for five years.

Through horizontal analysis you can pinpoint areas of wide divergence requiring investigation. For example, in the income statement shown in Figure 3-2, the significant rise in sales returns taken with the reduction in sales for 2X10-2X11 should cause concern. You might compare these results with those of competitors.

It is essential to present both the dollar amount of change and the percentage of change since the use of one without the other may result in erroneous conclusions. The interest expense from 2X10-2X11 went up by 100.0%, but this represented only $1,000 and may not need further investigation. In a similar vein, a large number change might cause a small percentage change and not be of any great importance. Key changes and trends can also be highlighted by the use of *common-size statements*. A common size statement is one that shows the separate items appearing on it in percentage term. In vertical analysis, a material financial statement item is used for a single year as a base value, and all other accounts on the financial statement are compared to it. In the balance sheet, for example, total assets equal 100%. Each asset is stated as a percentage of total assets. Similarly, total liabilities and stockholders' equity is assigned 100% with a given liability or equity account stated as a percentage of the total liabilities and stockholders' equity, respectively. Figure 3-3 shows a common-size income statement based on the data provided in Figure 3-2.

Placing all assets in common-size form clearly shows the relative importance of the current assets as compared to the noncurrent assets. It also shows that significant changes have taken place in the composition of the current assets over the last year. Notice, for example, that receivables have increased in relative importance and that cash has declined in relative importance. The deterioration in the cash position may be a result of inability to collect from customers.

For the income statement, 100% is assigned to net sales with all other revenue and expense accounts related to it. It is possible to see at a glance how each dollar of sales is distributed between the various costs, expenses, and profits. For example, notice from Figure 3-3 that 64.8 cents of every dollar of sales was needed to cover cost of goods sold in 2X12, as compared to only 57.3 cents in the prior year; also notice that only 9.9 cents out of every dollar of sales remained for profits in 2X12--down from 13.6 cents in the prior year.

You should also compare the vertical percentages of the business to those of the competition and to the industry norms. Then you can determine how the company fares in the industry.

**FIGURES 3-1**

**TLC, INC.**

**COMPARATIVE BALANCE SHEET (IN THOUSANDS OF DOLLARS)**

*DECEMBER 31, 2X12, 2X11, 2X10*

| | | | | Increase/ Decrease. | | % Increase/ Decrease | |
|---|---|---|---|---|---|---|---|
| | **2X12** | **2X11** | **2X10** | **2X12-2X11** | **2X11-2X10** | **2X12-2X11** | **2X11-2X10** |
| **ASSETS** | | | | | | | |
| Current Assets: | | | | | | | |
| Cash | $28 | $36 | $36 | (8.00) | 0.00 | -22.2% | 0.0% |
| Short-term investments | 22 | 15 | 7 | 7.00 | 8.00 | 46.7% | 114.3% |
| Accounts Receivable | 21 | 16 | 10 | 5.00 | 6.00 | 31.3% | 60.0% |
| Inventory | 53 | 46 | 49 | 7.00 | (3.00) | 15.2% | -6.1% |
| Total Current Assets | 124 | 113 | 102 | 11.00 | 11.00 | 9.7% | 10.8% |
| Plant And Equip. | 103 | 91 | 83 | 12.00 | 8.00 | 13.2% | 9.6% |
| Total Assets | 227 | 204 | 185 | 23.00 | 19.00 | 11.3% | 10.3% |
| **LIABILITIES** | | | | | | | |
| Current Liabilities | 56 | 50 | 51 | 6.00 | (1.00) | 12.0% | -2.0% |
| Long-term debt | 83 | 74 | 69 | 9.00 | 5.00 | 12.2% | 7.2% |
| Total Liabilities | 139 | 124 | 120 | 15.00 | 4.00 | 12.1% | 3.3% |
| **STOCKHOLDERS' EQUITY** | | | | | | | |
| Common Stock, $10 par, 4,600 shares | 46 | 46 | 46 | 0.00 | 0.00 | 0.0% | 0.0% |
| Retained Earnings | 42 | 34 | 19 | 8.00 | 15.00 | 23.5% | 78.9% |
| Total Stockholders' Equity | 88 | 80 | 65 | 8.00 | 15.00 | 10.0% | 23.1% |
| Total Liab.and Stockholders' Equity | $227 | $204 | $185 | $23.00 | $19.00 | 11.3% | 10.3% |

**FIGURE 3-2**

**TLC, INC.**

**COMPARATIVE INCOME STATEMENT (IN THOUSANDS OF DOLLARS)**

*FOR THE YEARS ENDED DECEMBER 31, 2X12, 2X11, 2X10*

| | | | | Increase/ Decrease | | % Increase/ Decrease | |
|---|---|---|---|---|---|---|---|
| | **2X12** | **2X11** | **2X10** | **2X12-2X11** | **2X11-2X10** | **2X12-2X11** | **2X11-2X10** |
| Sales | $98.3 | $120.0 | $56.6 | ($21.7) | $63.4 | -18.1% | 112.0% |
| Sales Return & Allowances | 18.0 | 10.0 | 4.0 | 8.0 | 6.0 | 80.0% | 150.0% |
| Net Sales | 80.3 | 110.0 | 52.6 | (29.7) | 57.4 | -27.0% | 109.1% |
| Cost of Goods Sold | 52.0 | 63.0 | 28.0 | (11.0) | 35.0 | -17.5% | 125.0% |
| Gross Profit | 28.3 | 47.0 | 24.6 | (18.7) | 22.4 | -39.8% | 91.1% |
| Operating Expenses | | | | | | | |
| Selling Expenses | 12.0 | 13.0 | 11.0 | (1.0) | 2.0 | -7.7% | 18.2% |
| General Expenses | 5.0 | 8.0 | 3.0 | (3.0) | 5.0 | -37.5% | 166.7% |
| Total Operating Expenses | $17.0 | $21.0 | $14.0 | ($4.0) | $7.0 | -19.0% | 50.0% |
| Income from Operations | $11.3 | $26.0 | $10.6 | ($14.7) | $15.4 | -56.5% | 145.3% |
| Nonoperating Income | 4.0 | 1.0 | 2.0 | 3.0 | (1.0) | 300.0% | -50.0% |
| Income before Interest & Taxes | 15.3 | 27.0 | 12.6 | (11.7) | 14.4 | -43.3% | 114.3% |
| Interest Expense | 2.0 | 2.0 | 1.0 | 0.0 | 1.0 | 0.0% | 100.0% |
| Income before Taxes | 13.3 | 25.0 | 11.6 | (11.7) | 13.4 | -46.8% | 115.5% |
| Income Taxes (40%) | 5.3 | 10.0 | 4.6 | (4.7) | 5.4 | -46.8% | 115.5% |
| Net Income | $8.0 | $15.0 | $7.0 | ($7.0) | $8.0 | -46.8% | 115.5% |

**FIGURE 3-3**
**INCOME STATEMENT AND COMMON SIZE ANALYSIS**
**TLC, INC.**
**(IN THOUSANDS OF DOLLARS)**
*FOR THE YEARS ENDED DECEMBER 31, 2X12 & 2X11*

| | *2X12* | | *2X11* | |
|---|---|---|---|---|
| | *Amount* | *%* | *Amount* | *%* |
| Sales | $98.30 | 122.40% | $120.00 | 109.10% |
| Sales Return & Allowances | 18.00 | 22.40% | 10.00 | 9.10% |
| Net Sales | 80.30 | 100.00% | 110.00 | 100.00% |
| Cost of Goods Sold | 52.00 | 64.80% | 63.00 | 57.30% |
| Gross Profit | 28.30 | 35.20% | 47.00 | 42.70% |
| Operating Expenses | | | | |
| Selling Expenses | 12.00 | 14.90% | 13.00 | 11.80% |
| General Expenses | 5.00 | 6.20% | 8.00 | 7.30% |
| Total Operating Expenses | $17.00 | 21.20% | $21.00 | 19.10% |
| | | | | |
| Income from Operations | $11.30 | 14.10% | $26.00 | 23.60% |
| Nonoperating Income | 4.00 | 5.00% | 1.00 | 0.90% |
| Income before Interest & Taxes | 15.30 | 19.10% | 27.00 | 24.50% |
| Interest Expense | 2.00 | 2.50% | 2.00 | 1.80% |
| Income before Taxes | 13.30 | 16.60% | 25.00 | 22.70% |
| Income Taxes (40%) | 5.30 | 6.60% | 10.00 | 9.10% |
| Net Income | $8.00 | 9.90% | $15.00 | 13.60% |

## Working with Financial Ratios

Horizontal and vertical analysis compares one figure to another within the same category. It is also vital to compare two figures applicable to different categories. This is accomplished by ratio analysis. In this section, you will learn how to calculate the various financial ratios and how to interpret them. The results of the ratio analysis will allow you:

1. To appraise the position of a business,
2. To identify trouble spots that need attention, and
3. To provide the basis for making projections and forecasts about the course of future operations.

Think of ratios as measures of the relative health or sickness of a business. Just as a doctor takes readings of a patient's temperature, blood pressure, heart rate, etc., you will take readings of a business's liquidity, profitability, leverage, efficiency in using assets, and market value. Where the doctor compares the readings to generally accepted guidelines such as a temperature of 98.6 degrees as normal, you make some comparisons to the norms.

To obtain useful conclusions from the ratios, you must make two comparisons:

- *Industry (benchmark) comparison.* This will allow you to answer the question "how does a business fare in the industry?" You must compare the company's ratios to those of competing companies in the industry or with industry standards (averages). You can obtain industry norms from financial services such as:

    1. *Risk Management Association (RMA).* RMA, also known as *Robert Morris Associates*, has been compiling statistical data on financial statements for more than 75 years. The RMA *Annual Statement Studies* provide statistical data from more than 150,000 actual companies on many key financial ratios, such as gross margin, operating margins and return on equity and assets. If you're looking to put real authority into the "industry average" numbers that your company is beating, the Statement Studies are the way to go. They're organized by SIC codes, and you can buy the financial statement studies for your industry in report form or over the Internet (**www.rmahq.org** ).

    2. *Dun and Bradstreet.* Dun and Bradstreet publishes *Industry Norms* and *Key Business Ratios*, which covers over 1 million firms in over 800 lines of business.

    3. *Value Line. Value Line Investment Service* provides financial data and rates stocks of over 1,700 firms.

    4. *The Department of Commerce.* The Department of Commerce Financial Report provides financial statement data and includes a variety of ratios and industry-wide common-size vertical financial statements.

    5. *Others.* Standard and Poor's, Moody's Investment Service, and various brokerage compile industry studies. Further, numerous online services such as AOL and MSN Money Central, to name a few, also provide these data.

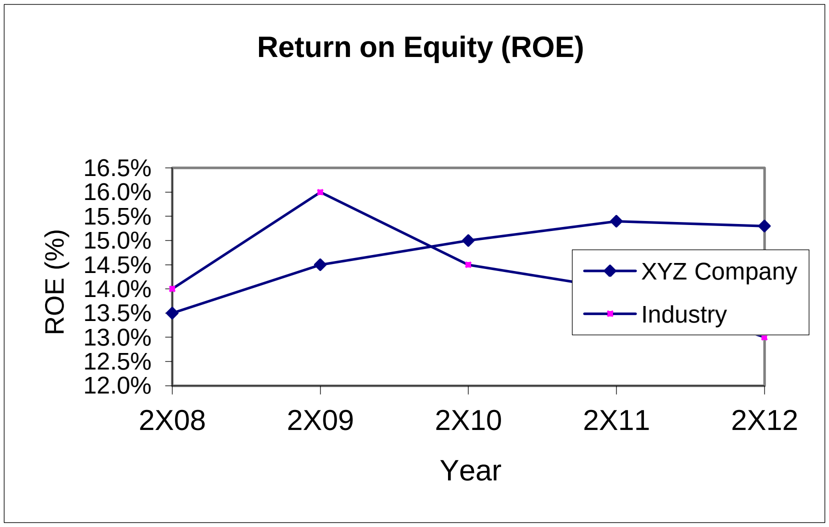
- *Trend analysis.* To see how the business is doing over time, you will compare a given ratio for one company over several years to see the direction of financial health or operational performance. To do a trend analysis, one simply plots a ratio over time, as shown in Figure 3-4.

*Note:* This graph also shows the rate of return on common equity (ROE) of XYZ Company versus the industry average. All the other ratios could be analyzed similarly.

**FIGURE 3-4**

**RETURN ON EQUITY (ROE)—**

**INDUSTRY COMPARISON AND TREND ANALYSIS**




## Liquidity

Liquidity is the firm's ability to satisfy maturing short-term debt. Liquidity is crucial to carrying out the business, especially during periods of adversity. It relates to the short term, typically a period of one year or less. Poor liquidity might lead to higher cost of financing and inability to pay bills and dividends. The three basic measures of liquidity are (a) net working capital, (b) the current ratio, and (c) the quick (acid-test) ratio.

Throughout our discussion, keep referring to Figures 3-1 and 3-2 to make sure you understand where the numbers come from.

*Net working capital* equals current assets minus current liabilities. Net working capital for 2X12 is:

Net working capital = current assets - current liabilities

= $124 - $56

= $68

In 2X11, net working capital was $63. The rise over the year is favorable.

The *current ratio* equals current assets divided by current liabilities. The ratio reflects the company's ability to satisfy current debt from current assets.

$$\text{Current ratio} = \left(\frac{\text{Current assets}}{\text{Current liabilities}}\right)$$

For 2X12, the current ratio is:

$$\left(\frac{\$124}{\$56}\right) = 2.21$$

In 2X11, the current ratio was 2.26. The ratio's decline over the year points to a slight reduction in liquidity.

Table 3-1 shows current ratios of certain companies compared with industry averages.

**TABLE 3-1**

***CURRENT RATIOS***

| Company | Industry | November 11 2013 | Industry Average |
|---|---|---|---|
| Boeing (BA) | Aerospace/Defense - Major Diversified | 1.29 | 1.32 |
| Google (GOOG) | Internet Information Providers | 4.76 | 4.89 |
| Toyota (TM) | Auto Manufacturers - Major | 1.09 | 1.27 |
| Nordstrom (JWN) | Apparel Stores | 1.79 | 1.46 |
| Intel (INTC) | Semiconductor - Broad Line | 2.26 | 2.09 |
| Wal Mart (WMT) | Discount, Variety Stores | .83 | 0.85 |

Source: MSN Money (http://money.msn.com/) --key ratios—Financial Condition

A more stringent liquidity test can be found in the *quick (acid-test) ratio.* Inventory and prepaid expenses are excluded from the total of current assets, leaving only the more liquid (or quick) assets to be divided by current liabilities.

$$\text{Acid-test ratio} = \frac{\text{cash} + \text{marketable securities}}{\text{current liabilities}}$$

The quick ratio for 2X12 is:

$$\left(\frac{\$28 + \$21 + \$22}{\$56}\right) = 1.27$$

In 2X11, the ratio was 1.34. A small reduction in the ratio over the period points to less liquidity.

The overall liquidity trend shows a slight deterioration as reflected in the lower current and quick ratios, although it is better than the industry norms (see Figure 3-5, Summary of Financial Ratios for TLC, Inc., at the end of the course for industry averages). But a mitigating factor is the increase in net working capital.

## Asset Utilization

Asset utilization (activity, turnover) ratios reflect the way in which a company uses its assets to obtain revenue and profit. One example is how well receivables are turning into cash. The higher the ratio, the more efficiently the business manages its assets.

*Accounts receivable ratios* comprise the accounts receivable turnover and the average collection period.

The *accounts receivable turnover* provides the number of times accounts receivable are collected in the year. It is derived by dividing net credit sales by average accounts receivable.

You can calculate average accounts receivable by the average accounts receivable balance during a period.

$$\text{Accounts receivable turnover} = \frac{\text{net credit sales}}{\text{average accounts receivable}}$$

For 2X12, the average accounts receivable is:

$$\frac{\$21 + \$16}{2} = \$18.5$$

The accounts receivable turnover for 2X12 is:

$$\frac{\$80.3}{\$18.5} = 4.34$$

In 2X11, the turnover was 8.46. There is a sharp reduction in the turnover rate pointing to a collection problem.

Table 3-2 shows receivable turnover ratios of certain companies compared with industry averages.

**TABLE 3-2**
**ACCOUNTS RECEIVABLE TURNOVER**

| Company | Industry | November 11 2013 | Industry Average |
|---|---|---|---|
| Boeing (BA) | Aerospace/Defense - Major Diversified | 14.09 | 10.07 |
| Google (GOOG) | Internet Information Providers | 7.56 | 6.83 |
| Toyota (TM) | Auto Manufacturers - Major | 13.59 | 3.24 |
| Nordstrom (JWN) | Apparel Stores | 5.34 | 3.44 |
| Intel (INTC) | Semiconductor - Broad Line | 13.67 | 0.96 |
| Wal Mart (WMT) | Discount, Variety Stores | 83.27 | NA |

Source: MSN Money (http://money.msn.com/) key ratios—Financial Condition

The *average collection period* is the length of time it takes to collect receivables. It represents the number of days receivables are held.

$$\text{Average collection period} = \frac{365\,\text{days}}{\text{accounts receivable turnover}}$$

In 2X12, the collection period is:

$$\frac{365}{4.34} = 84.1\,\text{days}$$

It takes this firm about 84 days to convert receivables to cash. In 2X11, the collection period was 43.1 days. The significant lengthening of the collection period may be a cause for some concern. The long collection period may be a result of the presence of many doubtful accounts, or it may be a result of poor credit management.

*Inventory ratios* are useful especially when a buildup in inventory exists. Inventory ties up cash. Holding large amounts of inventory can result in lost opportunities for profit as well as increased storage costs. Before you extend credit or lend money, you should examine the firm's *inventory turnover* and *average age of inventory*.

$$\text{Inventory turnover} = \frac{\text{cost of goods sold}}{\text{average inventory}}$$

The inventory turnover for 2X12 is:

$$\frac{\$52}{\$49.5} = 1.05$$

For 2X11, the turnover was 1.33.

$$\text{Average age of inventory} = \frac{365}{\text{inventory turnover}}$$

In 2X12, the average age is:

$$\frac{365}{1.05} = 347.6 \text{ days}$$

In the previous year, the average age was 274.4 days. The reduction in the turnover and increase in inventory age points to a longer holding of inventory. You should ask why the inventory is not selling as quickly.

The *operating cycle* is the number of days it takes to convert inventory and receivables to cash.

Operating cycle = average collection period + average age of inventory

In 2X12, the operating cycle is:

84.1 days + 347.6 days = 431.7 days

In the previous year, the operating cycle was 317.5 days. An unfavorable direction is indicated because additional funds are tied up in noncash assets. Cash is being collected more slowly.

By calculating the *total asset turnover*, you can find out whether the company is efficiently employing its total assets to obtain sales revenue. A low ratio may indicate too high an investment in assets in comparison to the sales revenue generated.

$$\text{Total asset turnover} = \frac{\text{net sales}}{\text{average total assets}}$$

In 2X12, the ratio is:

$$\frac{\$80.3}{(\$204 + \$227)/2} = \frac{\$80.3}{\$215.5} = 0.37$$

In 2X11, the ratio was .57 ($110/$194.5). There has been a sharp reduction in asset utilization.

TLC, Inc. has suffered a sharp deterioration in activity ratios, pointing to a need for improved credit and inventory management, although the 2X12 ratios are not far out of line with the industry averages (See Figure 3-5, Summary of Financial Ratios for TLC, Inc., at the end of the course). It appears that problems are inefficient collection and obsolescence of inventory.

## Solvency (Leverage and Debt Service)

Solvency is the company's ability to satisfy long-term debt as it becomes due. You should be concerned about the long-term financial and operating structure of any firm in which you might be interested. Another important consideration is the size of debt in the firm's capital structure, which is referred to as *financial leverage*. (Capital structure is the mix of the *long term* sources of funds used by the firm).

Solvency also depends on earning power; in the long run a company will not satisfy its debts unless it earns profit. A leveraged capital structure subjects the company to fixed interest charges, which contributes to earnings instability. Excessive debt may also make it difficult for the firm to borrow funds at reasonable rates during tight money markets.

The *debt ratio* reveals the amount of money a company owes to its creditors. Excessive debt means greater risk to the investor. (Note that equity holders come after creditors in bankruptcy.)

*Note:* How much debt is too much? The rule of thumb is: The debt portion should be less than 50%.

All of bankruptcies arise from a company's inability to meet its debt obligations, according to BankruptcyData.com.

The debt ratio is:

$$\text{Debt ratio} = \frac{\text{Total liabilities}}{\text{Total assets}}$$

In 2X12, the ratio is:

$$\frac{\$139}{\$227} = 0.61$$

The *debt-equity ratio* will show you if the firm has a great amount of debt in its capital structure. Large debts mean that the borrower has to pay significant periodic interest and principal. Also, a heavily indebted firm takes a greater risk of running out of cash in difficult times. The interpretation of this ratio depends on several variables, including the ratios of other firms in the industry, the degree of access to additional debt financing, and stability of operations.

$$\text{Debt-equity ratio} = \frac{\text{Total liabilities}}{\text{Stockholders' equity}}$$

In 2X12, the ratio is:

$$\frac{\$139}{\$88} = 1.58$$

In the previous year, the ratio was 1.55. The trend is relatively static.

*Times interest earned (interest coverage ratio)* tells you how many times the firm's before-tax earnings would cover interest. It is a safety margin indicator in that it reflects how much of a reduction in earnings a company can tolerate.

$$\text{Times interest earned} = \frac{\text{Income before interest and taxes}}{\text{interest expense}}$$

For 2X12, the ratio is: $\frac{\$15.3}{\$2.0} = 7.65$

In 2X11, interest was covered 13.5 times. The reduction in coverage during the period is a bad sign. It means that less earnings are available to satisfy interest charges.

Table 3-3 shows interest coverage ratios of certain companies compared with industry averages.

**Table 3-3**
**interest coverage ratios**

| Company | Industry | November 11 2013 | Industry Average |
|---|---|---|---|
| Boeing (BA) | Aerospace/Defense - Major Diversified | 15.97 | 14.46 |
| Google (GOOG) | Internet Information Providers | 169.61 | 165.04 |
| Toyota (TM) | Auto Manufacturers - Major | 99.07 | 35.1 |
| Nordstrom (JWN) | Apparel Stores | NA | 3.82 |
| Intel (INTC) | Semiconductor - Broad Line | 58.58 | 13.34 |
| Wal Mart (WMT) | Discount, Variety Stores | 12.31 | 11.86 |

Source: MSN Money (http://money.msn.com/) --key ratios—Financial Condition

You must also note liabilities that have not yet been reported in the balance sheet by closely examining footnote disclosure. For example, you should find out about lawsuits, noncapitalized leases, and future guarantees.

As shown in Figure 3-5 (Summary of Financial Ratios for TLC, Inc. at the end of the course), the company's overall solvency is poor, relative to the industry averages although it has remained fairly constant. There has been no significant change in its ability to satisfy long-term debt. Note that significantly less profit is available to cover interest payments.

## *Chapter 3 Review Questions*

1. In financial statement analysis, ______________________ concentrates on the trend in the accounts in dollar and percentage terms over the years.

A. Horizontal common-size analysis.
B. Ratio analysis.
C. Vertical common-size analysis.
D. Trend analysis.

2. What ratio is used to measure a firm's liquidity?

A. Debt ratio
B. Inventory turnover
C. Current ratio
D. Return on equity

3. What ratio is used to measure a firm's efficiency at using its assets?

A. Current ratio
B. Total asset turnover
C. Return on investment
D. Acid-test ratio

4. A firm’s average collection period is equal to

A. The length of time it takes to collect receivables
B. The inventory conversion period.
C. The cash conversion cycle.
D. The inventory divided by average daily sales.

5. The times-interest-earned ratio is primarily an indication of

A. Liquidity.
B. Asset management.
C. Debt-paying capacity (Solvency).
D. Profitability.

# Chapter 4:

# Analysis of Financial Statements for Profitability and Market Value

## Learning objectives

After reading this chapter, you should be able to:

- Identify two more types of ratio analysis: profitability and market value.
- Understand some of the limitations of different ratio analysis.
- Apply financial ratios calculations.

## Profitability and Market Value

### Profitability

A company's ability to earn a good profit and return on investment is an indicator of its financial well-being and the efficiency with which it is managed. Poor earnings have detrimental effects on market price of stock and dividends. Total dollar net income has little meaning unless it is compared to the input in getting that profit.

The *gross profit margin* shows the percentage of each dollar remaining once the company has paid for goods acquired. A high margin reflects good earning potential.

$$\text{Gross profit margin} = \frac{\text{gross profit}}{\text{net sales}}$$

In 2X12, the ratio is:

$$\frac{\$28.3}{\$80.3} = 0.35$$

The ratio was .43 in 2X11. The reduction shows that the company now receives less profit on each dollar of sales. Perhaps higher relative cost of merchandise sold is at fault.

Table 4-1 shows gross margin ratios of certain companies compared with industry averages.

**Table 4-1**
**Gross Margin Ratios**

| Company | Industry | November 11 2013 | Industry Average |
|---|---|---|---|
| Boeing (BA) | Aerospace/Defense - Major Diversified | 15.55 | 15.53 |
| Google (GOOG) | Internet Information Providers | 57.07 | 58.81 |
| Toyota (TM) | Auto Manufacturers - Major | 17.64 | 16.36 |
| Nordstrom (JWN) | Apparel Stores | 38.65 | 35.61 |
| Intel (INTC) | Semiconductor - Broad Line | 58.77 | NA |
| Wal Mart (WMT) | Discount, Variety Stores | 24.92 | 24.54 |

Source: MSN Money (http://money.msn.com/) -key ratios—Profit Margin

*Profit margin* shows the earnings generated form revenue and is a key indicator of operating performance. It gives you an idea of the firm's pricing, cost structure, and production efficiency.

$$\text{Profit margin} = \frac{\text{net income}}{\text{net sales}}$$

The ratio in 2X12 is:

$$\frac{\$8}{\$80.3} = 0.10$$

For the previous year, profit margin was .14. The decline in the ratio shows a downward trend in earning power. (Note that these percentages are available in the common size income statement as given in Figure 3-2).

*Return on investment* is a prime indicator because it allows you to evaluate the profit you will earn if you invest in the business. Two key ratios are the *return on total assets* and the *return on equity*.

The return on total assets shows whether management is efficient in using available resources to get profit.

$$\text{Return on total assets} = \frac{\text{net income}}{\text{average total assets}}$$

In 2X12, the return is:

$$\frac{\$8}{(\$227+\$204)/2}=0.037$$

In 2X11, the return was .077. There has been deterioration in the productivity of assets in generating earnings.

The *return on equity* (ROE) reflects the rate of return earned on the stockholders' investment.

$$\text{Return on common equity} = \frac{\text{net income available to stockholder}}{\text{average stockholders' equity}}$$

The return in 2X12 is: $\frac{\$8}{(\$88+\$80)/2}=0.095$

In 2X11, the return was .207. There has been a significant drop in return to the owners.

The overall profitability of the company has decreased considerably, causing a decline in both the return on assets and return on equity. Perhaps lower earnings were due in part to higher costs of short-term financing arising from the decline in liquidity and activity ratios. Moreover, as turnover rates in assets go down, profit will similarly decline because of a lack of sales and higher costs of carrying higher current asset balances. As indicated in Figure 3-5 (Summary of Financial Ratios for TLC, Inc. at the end of the course), industry comparisons reveal that the company is faring very poorly in the industry.

*Note:* If the return on the resources provided by creditors exceeds the cost (interest or fixed dividends), leverage is used effectively, and the return to common equity will be higher than the other measures. The reason is that common equity provides a smaller proportion of the investment than in an unleveraged company. The purpose of financial leverage is to use other people's money (OPM) to earn income for shareholders.

Table 4-2 shows return on equity of certain companies compared with industry averages.

**Table 4-2**
**Return on Equity**

| Company | Industry | November 11 2013 | Industry Average |
|---|---|---|---|
| Boeing (BA) | Aerospace/Defense - Major Diversified | 52.36 | 33.42 |
| Google (GOOG) | Internet Information Providers | 16.46 | 16.04 |
| Toyota (TM) | Auto Manufacturers - Major | 11.73 | 10.94 |
| Nordstrom (JWN) | Apparel stores | 39.26 | 13.04 |
| Intel (INTC) | Semiconductor - Broad Line | 18.07 | 19.17 |
| Wal Mart (WMT) | Discount, Variety Stores | 24.09 | 23.63 |

Source: MSN Money (http://money.msn.com/) --key ratios—Investment Returns

# Market Value

Market value ratios relate the company's stock price to its earnings (or book value) per share. Also included are dividend-related ratios.

*Earnings per share* (EPS) is the ratio most widely watched by investors. EPS shows the net income per common share owned. You must reduce net income by the preferred dividends to obtain the net income available to common stockholders. Where preferred stock is not in the capital structure, you determine EPS by dividing net income by common shares outstanding. EPS is a gauge of corporate operating performance and of expected future dividends.

$$\text{EPS} = \frac{\text{net income - preferred dividend}}{\text{common shares outstanding}}$$

EPS in 2X12 is:

$$\frac{\$8{,}000}{4{,}600 \text{ shares}} = \$1.74$$

For 2X11, EPS was $3.26. The sharp reduction over the year should cause alarm among investors. As you can see in Figure 3-5 (Summary of Financial Ratios for TLC, Inc. at the end of the course), the industry average EPS in 2X12 is much higher than that of TLC, Inc. ($4.51 per share vs. $1.74 per share).

The *price/earnings (P/E) ratio*, also called *earnings multiple*, reflects the company's relationship to its stockholders. The P/E ratio represents the amount investors are willing to pay for each dollar of the firm's earnings. A high multiple (cost per dollar of earnings) is favored since it shows that investors view the firm positively. On the other hand, investors looking for value would prefer a relatively lower multiple (cost per dollar of earnings) as compared with companies of similar risk and return.

$$\text{Price/earnings ratio} = \frac{\text{market price per share}}{\text{earnings per share}}$$

Assume a market price per share of $12 on December 31, 2X12, and $26 on December 31, 2X11. The P/E ratios are:

$$\text{2X12: } \frac{\$12}{\$1.74} = 6.9$$

$$\text{2X11: } \frac{\$26}{\$3.26} = 7.98$$

From the lower P/E multiple, you can infer that the stock market now has a lower opinion of the business. However, some investors argue that a low P/E ratio can mean that the stock is undervalued. Nevertheless, the decline over the year in stock price was 54% ($14/$26), which should cause deep investor concern.

Table 4-3 shows price-earnings ratios of certain companies compared with industry averages.

**Table 4-3**
**P/E ratios**

| Company | Industry | November 11 2013 | Industry Average |
|---|---|---|---|
| Boeing (BA) | Aerospace/Defense - Major Diversified | 23.42 | 20.41 |
| Google (GOOG) | Internet Information Providers | 28.25 | 36.1 |
| Toyota (TM) | Auto Manufacturers - Major | 12.97 | 13.91 |
| Nordstrom (JWN) | Apparel Stores | 16.39 | -153.85 |
| Intel (INTC) | Semiconductor - Broad Line | 12.16 | 25.58 |
| Wal Mart (WMT) | Discount, Variety Stores | 14.75 | 16.67 |

Source: MSN Money (http://money.msn.com/) --key ratios—Price Ratios

*Book value per share* equals the net assets available to common stockholders divided by shares outstanding. Book value per share can be misleading because fair values may differ substantially from book figures. By comparing it to market price per share you can get another view of how investors feel about the business.

The book value per share in 2X12 is

$$\text{Book value per share} = \frac{\text{Total stockholders' equity - preferred stock}}{\text{common shares outstanding}}$$

$$= \frac{\$88{,}000 - 0}{4{,}600} = \$19.13$$

In 2X11, book value per share was $17.39.

The increased book value per share is a favorable sign, because it indicates that each share now has a higher book value. However, in 2X12, market price is much less than book value, which means that the stock market does not value the security highly. In 2X11, market price did exceed book value, but there is now some doubt in the minds of stockholders concerning the company. However, some analysts may argue that the stock is underpriced.

The *price/book value ratio* shows the market value of the company in comparison to its historical accounting value. A company with old assets may have a high ratio whereas one with new assets may have a low ratio. Hence, you should note the changes in the ratio in an effort to appraise the corporate assets.

The ratio equals:

$$\text{Price/book value} = \frac{\text{Market price per share}}{\text{Book value per share}}$$

In 2X12, the ratio is:

$$\frac{\$12}{\$19.13} = 0.63$$

In 2X11, the ratio was 1.5. The significant drop in the ratio may indicate a lower opinion of the company in the eyes of investors. Market price of stock may have dropped because of deterioration in liquidity, activity, and profitability ratios. The major indicators of a company's performance are intertwined (i.e., one affects the other) so that problems in one area may spill over into another. This appears to have happened to the company in our example.

*Dividend ratios* help you determine the current income from an investment. Two relevant ratios are:

$$\text{Dividend yield} = \frac{\text{dividends per share}}{\text{market price per share}}$$

$$\text{Dividend payout} = \frac{\text{dividends per share}}{\text{earnings per share}}$$

There is no such thing as a "right" payout ratio. Stockholders look unfavorably upon reduced dividends because it is a sign of possible deteriorating financial health. However, companies with ample opportunities for growth at high rates of return on assets tend to have low payout ratios.

# An Overall Evaluation – Summary of Financial Ratios

As indicated in the chapter, a single ratio or a single group of ratios is not adequate for assessing all aspects of the firm's financial condition. Figure 3-5 (Summary of Financial Ratios for TLC, Inc. at the end of the course), summarizes the 2X11 and 2X12 ratios calculated in the previous sections, along with the industry average ratios for 2X12. The figure also shows the formula used to calculate each ratio. The last three columns of the figure contain subjective assessments of TLC's financial condition, based on trend analysis and 2X12 comparisons to the industry norms. (5-year ratios are generally needed for trend analysis to be more meaningful, however.)

By appraising the trend in the company's ratios from 2X11 to 2X12, we see from the drop in the current and quick ratios that there has been a slight detraction in short-term liquidity, although they have been above the industry averages. But working capital has improved. A material deterioration in the activity ratios has occurred, indicating that improved credit and inventory policies are required. They are not terribly alarming, however, because these ratios are not way out of line with industry averages. Also, total utilization of assets, as indicated by the total asset turnover, shows a deteriorating trend.

Leverage (amount of debt) has been constant. However, there is less profit available to satisfy interest charges. TLC's profitability has deteriorated over the year. In 2X12, it is consistently below the industry average in every measure of profitability. In consequence, the return on the owner's investment and the return on total assets have gone down. The earnings decrease may be partly due to the firm's high cost of short-term financing and partly due to operating inefficiency. The higher costs may be due to receivable and inventory difficulties that forced a decline in the liquidity and activity ratios. Furthermore, as receivables and inventory turn over less, profit will fall off from a lack of sales and the costs of carrying more in current asset balances.

The firm's market value, as measured by the price/earnings (P/E) ratio, is respectable as compared with the industry. But it shows a declining trend.

In summary, it appears that the company is doing satisfactorily in the industry in many categories. The 2X11-2X12 period, however, seems to indicate that the company is heading for financial trouble in terms of earnings, activity, and short-term liquidity. The business needs to concentrate on increasing operating efficiency and asset utilization.

## Is Ratio Analysis a Panacea?

While ratio analysis is an effective tool for assessing a business's financial condition, you must also recognize the following limitations:

1. Accounting policies vary among companies and can inhibit useful comparisons. For example, the use of different depreciation methods (straight-line vs. double declining balance) will affect profitability and return ratios.

2. Management may "fool around" with ("window-dress") the figures. For example, it can reduce needed research expense just to bolster net income. This practice, however, will almost always hurt the company in the long run.

3. A ratio is static and does not reveal future flows. For example, it will not answer questions such as "How much cash do you have in your pocket now?" or "Is that sufficient, considering your expenses and income over the next month?"

4. A ratio does not indicate the quality of its components. For example, a high quick ratio may contain receivables that may not be collected.

5. Reported liabilities may be undervalued. An example is a lawsuit on which the company is contingently liable.

6. The company may have multiple lines of business, making it difficult to identify the industry group the company is a part.

7. Industry averages cited by financial advisory services are only approximations. Hence, you may have to compare a company's ratios to those of competing companies in the industry.

## The Power of Cash Flow Ratios

The traditional liquidity ratios rely exclusively on balance sheet or income statement information, not on cash flow information. Both the current and quick ratios have been criticized on the ground that they do not incorporate information about the timing and magnitude of future cash flows and outflows. The following two ratios get around this problem.

1. *Defensive interval measure* estimates the number of days the defensive assets could service the projected daily operating expenditures of the firm. The ratio is:

$$\frac{\text{total defensive assets}}{\text{projected daily operating expenditures}}$$

$$= \frac{\text{cash} + \text{short-term investments} + \text{accounts receivable}}{\text{cost of goods sold} + \text{selling and administrative expenses} + \text{interest expense}} \text{ x } 365 \text{ days}$$

2. *Cash ratio* is a more appropriate measure when inventory and account receivable are of questionable value, such as with companies whose receivables are collected on an installment basis. The ratio is:

$$\left(\frac{\text{cash} + \text{short-term investments}}{\text{Current liabilities}}\right)$$

To fully understand a company's viability as an ongoing concern, an analyst should calculate ratios from data on the company's *cash flow statement*. This is especially true in predicting bankruptcy and financial distress. Cash flow ratios can be viewed in terms of sufficiency and efficiency. *Sufficiency* describes the adequacy of cash flows for meeting a company's needs; *efficiency* describes how well a company generates cash flows relative both to other years and to other companies.

### *Sufficiency Ratios*

The cash flow adequacy ratio directly measures a company's ability to generate cash sufficient to pay its debts, reinvest in its operations and make distributions (dividends) to owners. A value of 1 over a period of several years shows satisfactory ability to cover these primary cash requirements. The long-term debt payment, dividend payout and reinvestment ratios provide further insight for investors and creditors into the individual importance of these three components. When expressed as percentages and added together, these three ratios show the percentage of cash from operations available for discretionary uses.

Although a company could use cash generated from financing and investing activities to retire debt, cash from operations represents the main source of long-term funds. The debt coverage ratio can be viewed as a payback period; that is, it estimates how many years, at the current level of cash from operations, it will take to retire all debt.

The depreciation—amortization impact ratio shows the percentage of cash from operations resulting from add-backs of depreciation and amortization. Comparing this ratio to the reinvestment ratio provides insight into the sufficiency of a company's reinvestment and the maintenance of its asset base. Over several years, the reinvestment ratio should exceed the depreciation—amortization impact ratio to ensure sufficient replacement of assets at higher current costs. This ratio also can be used as an efficiency evaluation. A company would be considered more efficient if depreciation and amortization have a relatively low impact on cash from operations.

## *Efficiency Ratios*

Investors, creditors and others concerned with a company's cash flows are especially interested in the income statement and earnings measures. The cash flow to sales ratio shows the percentage of each sales dollar realized as cash from operations. Overtime, this ratio should approximate the company's return on sales. The operations index compares cash from operations to income from continuing operations. It measures the cash-generating productivity of continuing operations. Cash flow return on assets is a measure of the return on assets used to compare companies on the basis of cash generation (as opposed to income generation) from assets.

Sufficiency and efficiency ratios are examples of information available to financial statement users from the cash flow statement. It's important to remember that, as in all ratio analysis, isolated ratios provide limited information about a single period. The ratios become more useful when computed for a period of years to determine averages and trends and when compared to industry averages.

The following summarizes related cash flow ratios:

---

**Sufficiency Ratios**

1. Cash flow adequacy:

$$\frac{\text{Cash flow from operations}}{\text{(Long-term debt paid + purchases of assets + dividends paid)}}$$

2. Long-term debt payment:

$$\frac{\text{Long-term debt payments}}{\text{Cash flow from operations}}$$

3. Dividend payout:

$$\frac{\text{Dividends}}{\text{Cash flow from operations}}$$

4. Reinvestment:

$$\frac{\text{Purchase of assets}}{\text{Cash flow from operations}}$$

5. Debt coverage:

$$\frac{\text{Total debt}}{\text{Cash flow from operations}}$$

6. Depreciation-amortization impact:

$$\frac{\text{Depreciation + amortization}}{\text{Cash flow from operations}}$$

**Efficiency Ratios**

7. Cash flow to sales:

$$\frac{\text{Cash flow from operations}}{\text{Sales}}$$

8. Operations index:

$$\frac{\text{Cash flow from operations}}{\text{Income from continuing operations}}$$

9. Cash flow return on assets:

$$\frac{\text{Cash flow from operations}}{\text{Total assets}}$$

---

*Note:* From the *statement of cash flows*, cash flow from operations is defined as:

| |
|---|
| Net income |
| Add: Noncash expenses (e.g., depreciation, amortization) |
| Less: Noncash revenue (e.g., amortization of deferred revenue) |
| Cash flow from operations |

## Conclusion

The analysis of financial statements means different things to different people. It is of interest to creditors, present and prospective investors, and the firm's own management. This chapter has presented the various financial statement analysis tools useful in evaluating the firm's present and future financial condition. These techniques include horizontal, vertical, and ratio analysis, which provide relative measures of the performance and financial health of the company. Two methods were demonstrated for analyzing financial ratios. The first involved trend analysis for the company over time; the second involved making comparisons with industry norms. While ratio analysis is an effective tool for assessing a company's financial condition, the limitation of ratios must be recognized.

## *Chapter 4 Review Questions*

1. If a company is profitable and is effectively using leverage, which one of the following ratios is likely to be the largest?

A. Return on total assets.
B. Return on operating assets.
C. Return on equity.
D. Return on total shareholders' equity.

2. What type of ratio is return of total assets ratio?

A. Liquidity ratio.
B. Profitability ratio.
C. Activity ratio.
D. Leverage ratio.

3. What type of ratio is earnings per share (EPS)?

A. Market value ratio.
B. Activity ratio.
C. Liquidity ratio.
D. Leverage ratio.

4. A company has 100,000 outstanding common shares with a market value of 20 per share. Dividends of 2 per share were paid in the current year, and the enterprise has a dividend-payout ratio of 40%. The price-to-earnings ratio of the company is

A. 2.5.
B. 10.
C. 4.
D. 50.

5. An increase in the market price of a company's common stock will immediately affect its

A. Dividend yield.
B. Debt-to-equity ratio.

C. Earnings per share.
D. Dividend payout ratio.

**Figure 3-5**

**TLC, Inc.**

## Summary of Financial Ratios - Trend and Industry Comparisons

| Ratios | Definitions | 2X11 | 2X12 | Industry[a] | Evaluation[b] Ind | Trend | Overall |
|---|---|---|---|---|---|---|---|
| **LIQUIDITY** | | | | | | | |
| Net working capital | Current assets - current liabilities | 63 | 68 | 56 | good | good | good |
| Current Ratio | Current assets/current liabilities | 2.26 | 2.21 | 2.05 | OK | OK | OK |
| Quick (Acid-test) ratio | (Cash + short-term investments + accounts receivable)/current liabilities | 1.34 | 1.27 | 1.11 | OK | OK | OK |
| **ASSET UTILIZATION** | | | | | | | |
| Accounts receivable turnover | Net credit sales/average accounts receivable | 8.46 | 4.34 | 5.5 | OK | poor | poor |
| Average collection period | 365 days/accounts receivable turnover (days) | 43.1 | 84.1 | 66.4 | OK | poor | poor |
| Inventory turnover | Cost of goods sold/average inventory | 1.33 | 1.05 | 1.2 | OK | poor | poor |
| Average age of inventory | 365 days/inventory turnover (days) | 274.4 | 347.6 | N/A | N/A | poor | poor |
| Operating cycle | Average collection period + average age of inventory (days) | 317.5 | 431.7 | N/A | N/A | poor | poor |
| Total asset turnover | Net sales/average total assets | 0.57 | 0.37 | 0.44 | OK | poor | poor |
| **SOLVENCY** | | | | | | | |
| Debt ratio | Total liabilities/total assets | 0.61 | 0.61 | N/A | N/A | OK | OK |
| Debt-equity ratio | Total liabilities/stockholders' equity | 1.55 | 1.58 | 1.3 | poor | poor | poor |
| Times interest earned | Income before interest and taxes/interest expense (times) | 13.5 | 7.65 | 10 | OK | poor | poor |
| **PROFITABILITY** | | | | | | | |
| Gross profit margin | Gross profit/net sales | 0.43 | 0.35 | 0.48 | poor | poor | poor |
| Profit margin | Net income/net sales | 0.14 | 0.1 | 0.15 | poor | poor | poor |
| Return on total assets | Net income/average total assets | 0.077 | 0.037 | 0.1 | poor | poor | poor |
| Return on equity(ROE) | Earnings available to common stockholders/ avg. stockholders' equity | 0.207 | 0.095 | 0.27 | poor | poor | poor |
| **MARKET VALUE** | | | | | | | |

**Figure 3-5**

**TLC, Inc.**

## Summary of Financial Ratios - Trend and Industry Comparisons

| Ratios | Definitions | 2X11 | 2X12 | Industry[a] | Evaluation[b] Ind | Trend | Overall |
|---|---|---|---|---|---|---|---|
| Earnings per share(EPS) | (Net income -preferred dividend)/common shares outstanding | 3.26 | 1.74 | 4.51 | poor | poor | poor |
| Price/earnings (P/E) ratio | Market price per share/EPS | 7.98 | 6.9 | 7.12 | OK | poor | poor |
| Book value per share | (Total stockholders' eqty - Preferred stock)/ common shrs outstanding | 17.39 | 19.13 | N/A | N/A | good | good |
| Price/book value ratio | Market price per share/book value per share | 1.5 | 0.63 | N/A | N/A | poor | poor |
| Dividend yield | Dividends per share/market price per share | | | | | | |
| Dividend payout | Dividends per share/EPS | | | | | | |

(a) Obtained from sources not included in this chapter

(b) Represent subjective evaluation

# Glossary

**Acid test ratio** (Currents assets - inventories)/current liabilities. This ratio is a more stringent measure of liquidity than the current ratio in that it subtracts inventories (the least liquid current asset) from current assets; also called *quick ratio*.

**Annual report** An audited document issued annually by all publicly listed corporations to their shareholders in accordance with SEC regulation. Contains information on financial results and overall performance of the previous fiscal year and comments on future outlook.

**Audit Report** Statement of the accounting firm's assessment of the validity and accuracy of a company's financial information and conformity with accepted accounting practices.

**Balance sheet** A basic accounting statement that represents the financial position of a firm on a given date. Financial statement reporting, at a given date, the total amount of assets held by a firm and the liabilities and owners' equity that finance these assets.

**Capital structure** The mix of long-term sources of funds used by the firm; also called *capitalization.* The relative total (percentage) of each source of fund is emphasized.

**Coverage ratios** A group of ratios that measure a firm's ability to meet its recurring fixed charge obligations, such as interest on long-term debt, lease payments, and/or preferred stock dividends.

**Debt ratio** Total liabilities/total assets. A ratio that measures the extent to which a firm has been financed with debt. It is a measure of financial leverage**.**

**Dividend payout ratio** The amount of dividends relative to the company's net income or earnings per share.

**Earnings per share (EPS)** Earnings after tax divided by the total number of shares outstanding.

**Free cash flow** The value of a firm based on the cash flows available for distributing to any investors, both debt and equity. The free cash flows equal operating cash flows less any incremental investments made to support a firm's future growth. The value of these flows is equal to their present value.

**Gross profit margin** Gross profit/net sales. A ratio denoting the gross profit of the firm as a percentage of net sales.

**Inventory turnover** Cost of goods sold divided by ending inventories. It is a measure of the efficiency of inventory management.

**Liquidity** The ability of a firm to meet short-term recurrent cash obligations.

**Public Company Accounting Oversight Board (PCAOB)** (**www.pcaobus.com**) Established in 2002 as a result of the Sarbanes-Oxley Act, a private sector, non-profit corporation set up to oversee the audits of public companies and ensure that accountancy firms should no longer derive non-audit revenue streams, such as consultancy, from their audit clients.

**Price/earnings ratio (P/E)** The price the market places on $1 of a firm's earnings. For example, if a firm has an earnings per share of $2, and a stock price of $30, its price/earnings ratio is 15 ($30 + $2).

**Price-to-book ratio (P/B)** Share price divided by book value of equity per share.

**Return on equity (ROE)** Earnings after tax (EAT) divided by owners' equity. A measure of the firm's profitability to shareholders.

**Statement of cash flows** Financial statement**,** such as ASC 230, *Statement of Cash Flows* (FAS-95, *Statement of Cash Flows*), that provides information about the cash transactions between the firm and the outside world by separating these transactions into cash flows related to operating, investing, and financing activities.

**Times interest earned ratio** Earnings before interest and taxes (EBIT)/interest expense. A ratio that measures the firm's ability to meet its interest payments from its annual operating earnings.

**Sarbanes-Oxley (SOX) Act** Wide-ranging U.S. corporate reform legislation, coauthored by the Democrat in charge of the Senate Banking Committee, Paul Sarbanes, and Republican Congressman Michael Oxley. It is legislation to ensure internal controls or rules to govern the creation and documentation of corporate information in financial statements. It establishes new standards for corporate accountability and penalties for corporate wrongdoing.

**Securities and Exchange Commission (SEC)** (**www.sec.gov**) A federal agency created by the Securities Exchange Act of 1934 to protect investors from dangerous or illegal financial practices or fraud by requiring full and accurate financial disclosure by companies offering stocks, bonds, mutual funds, and other securities to the public. It is the chief regulator of the U.S. securities market and overseer of the nation's stock exchanges, broker-dealers, investment advisors, and mutual funds.

# Review Questions Answers

## *Chapter 1 Review Answers*

1. Which of the following is NOT one of the basic financial statements in an annual report?

A. Incorrect. Under GAAP, the basic required statements are the balance sheet, income statement, and statement of cash flows. The balance sheet is a snapshot in time of a company's financial position.
B. Incorrect. The income statement is required under GAAP to measure the operating performance for a specified period of time (e.g., for the year ended December 31, 20X1). If the balance sheet is a snapshot, the income statement is a motion picture. The income statement serves as the bridge between two consecutive balance sheets.
C. Incorrect. A statement of cash flows is now a required part of a full set of financial statements of all business entities (both publicly held and privately held).
D. **Correct.** The performance report is an internal report used for a control purpose.

2. The primary purpose of the balance sheet is to reflect

A. Incorrect. The measurement attributes of assets include but are not limited to fair value.
B. Incorrect. Financial statements reflect the going concern assumption. Hence, they usually do not report forced liquidation values.
C. **Correct.** The balance sheet presents three major financial accounting elements: assets, liabilities, and equity. Assets are probable future economic benefits resulting from past transactions or events. Liabilities are probable future sacrifices of economic benefits arising from present obligations as a result of past transactions or events. Equity is the residual interest in the assets after deduction of liabilities.
D. Incorrect. The future value of a company's stock is more dependent upon future operations and investors' expectations than on the data found in the balance sheet.

3. A financial statement includes all of the following items: operating activities, financial activities and investing activities. What financial statement is this?

A. **Correct.** A statement of cash flows is a required financial statement. Its primary purpose is to provide information about cash receipts and payments by reporting the cash effects of an enterprise's operating, investing, and financing activities.

B. Incorrect. The balance sheet does not include periodic net income or depreciation expense.
C. Incorrect. The income statement does not detail results from operating and financing activities.
D. Incorrect. Retained earnings does not detail operating and investing activities, depreciation, and net income.

4. A statement of cash flows is intended to help users of financial statements

A. **Correct.** The statement of cash flows shows the sources and uses of cash, which is a basis for cash flow analysis for managers. The statement aids you in answering vital questions like "where was money obtained?" and "where was money put and for what purpose?" If sued with information in the other financial statements, the statement of cash flows should help users to assess the entity's ability to generate positive future net cash flows (liquidity), its ability t meet obligations (solvency) and pay dividends, the need for external financing, the reasons for differences between income and cash receipt sand payments, and the cash and noncash aspects of the investing and financing activities.
B. Incorrect. The statement of cash flows deals with only one resource-cash.
C. Incorrect. The income statement shows the components of income from operations.
D. Incorrect. The identity of stock buyers and sellers is not shown.

5. Which of the following would be classified as a current liability?

A. **Correct.** Accounts payable represents the amounts owed to creditors by the company.
B. Incorrect. Land is a fixed asset.
C. Incorrect. Capital stock is an equity account; it is stock owned by the corporation.
D. Incorrect. Accounts receivable is a current asset; the money owed the business by customers and others.

## *Chapter 2 Review Answers*

1. If the financial statements taken as a whole are not presented fairly in conformity with generally accepted accounting principles, the auditor must express which of the following opinions?

A. Incorrect. An unqualified opinion can be expressed only when statements are fairly presented in accordance with GAAP.

B. Incorrect. A qualified opinion is expressed when, except for the matter to which the qualification relates the financial statements are presented fairly in all material respects and in conformity with GAAP.
C. Incorrect. An except for opinion is expressed when, except for the matter to which the qualification relates, the financial statements are presented fairly, in all material respects, in conformity with GAAP.
D. **Correct.** An auditor must express an adverse opinion when the financial statements taken as a whole are not presented fairly in conformity with GAAP. An adverse opinion states that the financial statements do not present fairly the financial position or the results of operations or cash flows in conformity with GAAP.

2. The responsibility for the proper preparation of a company's financial statements rests with its

A. **Correct.** Management has the responsibility to adopt sound accounting policies and to establish and maintain internal controls that will record, process, summarize, and report transactions, events, and conditions consistent with the assertions in the financial statements. The fairness of the representations made therein is the responsibility of management alone because the transactions and the related assets, liabilities, and equity reflected are within management's direct knowledge and control.
B. Incorrect. The Audit committee is responsible for dealing with external and internal auditors.
C. Incorrect. Internal auditors just ensure internal control on financial reporting. The ultimate responsibility for the assertions in the financial statements rests with management.
D. Incorrect. External auditors make sure that a client company is inconformity with GAAP and follows sound internal controls.

3. The content of the Management's Discussion and Analysis (MD&A) section of an annual report is

A. Incorrect. The Financial Accounting Standards Board (FASB) does not mandate the MD&A section. It is mandated by the SEC.
B. **Correct.** The content of the MD&A section is required by regulations of the SEC. The MD&A contains standard financial statements and summarized financial data for at least 5 years. Other matters must be included in annual reports to shareholders and in Form 10-K filed with the SEC.
C. Incorrect. Auditors are expected to read (not review or audit) the contents of the MD&A to be certain it contains no material inconsistencies with the financial statements.
D. Incorrect. The IRS is the taxing authority and does not mandate the MD&A.

4. The Securities and Exchange Commission continues to encourage management to provide forward-looking information to users of financial statements and has a safe harbor rule that

A. **Correct.** The SEC does not require forecasts but encourages companies to issue projections of future economic performance. To encourage the publication of such information in SEC filings, the safe harbor rule was established to protect a company that prepares a forecast on a reasonable basis and in good faith.
B. Incorrect. Both the company and management are protected if the forecast is made in good faith.
C. Incorrect. The objective is to encourage forecasts, not to delay them.
D. Incorrect. Anyone may use the forecast information.

5. Regarding financial accounting for public companies, the role of the Securities and Exchange Commission (SEC) as currently practiced is to

A. Incorrect. The SEC regulates both quarterly and annual reporting.
B. Incorrect. The SEC has no jurisdiction over state and municipal reporting.
C. **Correct.** The SEC has authority to regulate external financial reporting. Nevertheless, its traditional role has been to promote disclosure rather than to exercise its power to establish accounting recognition and measurement principles. Its objective is to allow the accounting profession (through the FASB) to establish principles and then to ensure that corporations abide by those principles. This approach allows investors to evaluate investments for themselves.
D. Incorrect. The SEC has allowed the accounting profession to develop and promulgate GAAP.

## *Chapter 3 Review Answers*

1. In financial statement analysis, ______________________ concentrates on the trend in the accounts in dollar and percentage terms over the years.

A. **Correct.** Comparison of two or more years' financial data is known as horizontal analysis. Horizontal analysis is useful for evaluating trends. The base amount is assigned the value of 100% and the amounts for other years are denominated in percentages compared to the base year.
B. Incorrect. Ratio analysis is a general term.
C. Incorrect. Vertical common-size (percentage) analysis presents figures for a single year expressed as percentages of a base amount on the balance sheet (e.g., total assets) and on the income statement (e.g., sales).

D. Incorrect. The term “trend analysis” is most often applied to the quantitative techniques used in forecasting to fit a curve to given data.

2. What ratio is used to measure a firm's liquidity?

A. Incorrect. Debt ratio measures the money the business owes creditors.
B. Incorrect. Inventory turnover measures the efficiency of inventory management.
C. **Correct.** The current ratio reflects the company’s ability to satisfy current debt from current assets.
D. Incorrect. Return of equity measures the company’s profitability to shareholders.

3. What ratio is used to measure a firm's efficiency at using its assets?

A. Incorrect. Current ratio measures liquidity; it show if current assets can cover current debt.
B. **Correct.** Total asset turnover measures how efficiently assets are being used to generate sales.
C. Incorrect. Return on investment is used to evaluate the profit that is possible if you invest in the business.
D. Incorrect. Acid-test ratio measures a company’s liquidity by taking the current ratio, current assets/current liabilities and removing inventories from the equation so only liquid assets are left.

4. A firm’s average collection period is equal to

A. **Correct.** The average collection period may be stated as the accounts receivable balance divided by average credit sales per day or as days in the year divided by the receivables turnover. It is the average time required to convert the enterprise's receivables into cash.
B. Incorrect. The inventory conversion period (days of inventory) is the average time required to convert materials into finished goods and then to sell them. This process typically occurs before the receivables collection period, and the amount of time in one period does not necessarily bear any relationship to the other.
C. Incorrect. The cash conversion cycle equals the inventory conversion period, plus the receivables collection period, minus the payables deferral period (average time between resource purchases and payment of cash for them). It estimates the time between when the enterprise makes payments and when it receives cash inflows.
D. Incorrect. The inventory divided by the sales per day is the inventory conversion period (days of inventory).

5. The times-interest-earned ratio is primarily an indication of

A. Incorrect. Liquidity ratios, e.g., the current ratio, indicate the relationship of current assets to current liabilities.
B. Incorrect. Asset management ratios indicate how effectively the enterprise is using its assets.
C. **Correct.** The times-interest-earned ratio equals (income from operations) / (Interest expense). It measures the extent to which operating profit can decline before the enterprise is unable to meet its annual interest cost. Thus, it is a measure of debt-paying capacity (solvency).
D. Incorrect. Profitability ratios measure operating results.

## *Chapter 4 Review Answers*

1. If a company is profitable and is effectively using leverage, which one of the following ratios is likely to be the largest?

A. Incorrect. Return on equity will be higher than the return on assets if the firm is profitable and using leverage effectively.
B. Incorrect. Return on operating assets will be lower than the return on common equity if the firm is profitable and using leverage effectively.
C. **Correct.** The purpose of leverage is to use creditor capital to earn income for shareholders. If the return on the resources provided by creditors or preferred shareholders exceeds the cost (interest or fixed dividends), leverage is used effectively, and the return to common equity will be higher than the other measures. The reason is that common equity provides a smaller proportion of the investment than in an unleveraged company.
D. Incorrect. Return on total shareholder's equity will be lower than the return on common equity if the firm is using other people's money (OPM) profitably.

2. What type of ratio is return of total assets ratio?

A. Incorrect. Activity ratios measure management's efficiency in using specific resources.
B. **Correct.** Return on total assets is a profitability ratio that shows whether management is efficient in using available resources to make a profit.
C. Incorrect. Liquidity ratios indicate the ability of a company to meet short-term obligations.
D. Incorrect. Leverage or equity ratios concern the relationship of debt to equity ratios concern the relationship of debt to equity and measure the impact of the debt on profitability and risk.

3. What type of ratio is earnings per share (EPS)?

A. **Correct.** Earnings per share (EPS) is a market value ratio. It measures the level of profitability of the firm on a per share basis.
B. Incorrect. Activity ratios measure management's efficiency in using specific resources.
C. Incorrect. Liquidity ratios indicate the ability of a company to meet short-term obligations.
D. Incorrect. Leverage or equity ratios concern the relationship of debt to equity and measure the impact of the debt on profitability and risk.

4. A company has 100,000 outstanding common shares with a market value of 20 per share. Dividends of 2 per share were paid in the current year, and the enterprise has a dividend-payout ratio of 40%. The price-to-earnings ratio of the company is

A. Incorrect. 2.5 equals EPS divided-by dividends per share.
B. Incorrect. 10 equals share price divided by dividends per share.
C. **Correct.** The P-E ratio equals the share price divided by EPS. If the dividends per share equaled 2 and the dividend-payout ratio was 40%, EPS must have been 5 (2/0.4). Accordingly, the P-E ratio is 4 (20 share price/5 EPS).
D. Incorrect. 50 equals price per share divided by the dividend-payout percentage.

5. An increase in the market price of a company's common stock will immediately affect its

A. **Correct.** The dividend yield includes market price as part of the calculation. The dividend yield is computed by dividing the annual dividend by the current market price of the stock. An increase in market price reduces the dividend yield.
B. Incorrect. The debt-to-equity ratio is based on the book value of equity, not market value.
C. Incorrect. EPS is calculated by dividing net income by the number of shares outstanding. Market value is not a factor.
D. Incorrect. The dividend payout ratio equals the dividend per share dividend by EPS.