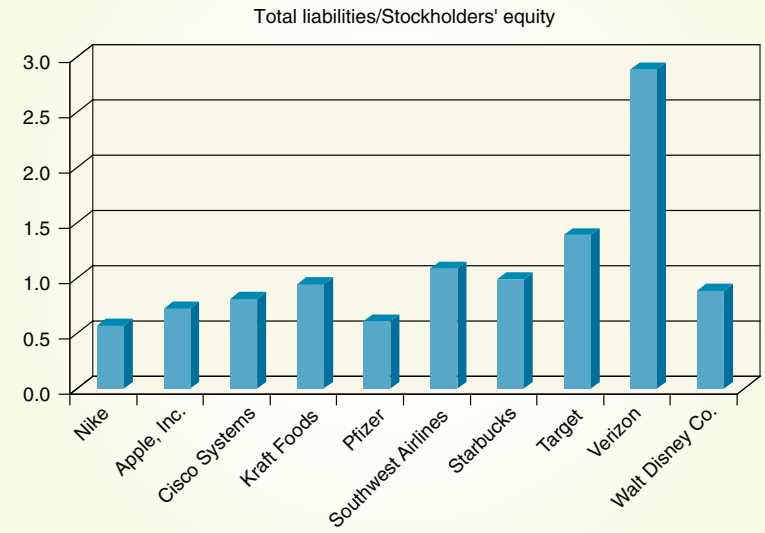
of long-term solvency to assess a company's ability to make the necessary interest and principal payments on its debt. One such measure is the debt-to-equity ratio:

$$\text{Debt-to-Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Total Stockholders' Equity}}$$

This measure captures the extent to which a company relies on creditor versus owner financing to fund its investment in assets. The higher the ratio, the more the firm is financed with debt. Nike's debt-to-equity ratio was 0.52 at May 31, 2007, calculated as follows ($ millions):

$$\frac{\$3{,}662.9}{\$7{,}025.4} = 0.52$$

EXHIBIT 1.14 Debt-to-Equity Ratio of Several Companies for 2006



A debt-to-equity ratio equal to 1 indicates that the company is using equal parts debt and equity financing. Nike financed less than half of its assets with liabilities, so its debt-to-equity ratio is well below 1. To see how this compares with some other companies, consider Exhibit 1.14.

The graph shows that Nike had the lowest debt-to-equity ratio among this group of firms, followed closely by **Pfizer**. In contrast, **Verizon** had a debt-to-equity ratio of 2.9. Verizon financed 74% of its assets with debt.

There are other measures of profitability and risk that will be introduced in later chapters. Collectively, these ratios, when placed in the context of the company's business activities, help to provide a clear picture of the *drivers* of a company's financial performance and the factors affecting its financial condition. Understanding these performance drivers and their impact on the financial health of a company is key to effectively using the information presented in the financial statements.

CHAPTER-END REVIEW

QUIKSILVER
NYSE :: ZQK

ADIDAS
Frankfurt :: ADS

The financial statements of **Quiksilver** are presented in the solution to the mid-chapter review (page 35). Another competitor of both Nike and Quiksilver is **Adidas**. Adidas markets athletic shoes and apparel under the Adidas and Reebok brands. It also sells Solomon ski equipment and TaylorMade golf equipment. The following information is from these two companies' 2007 financial statements (Adidas' financial statements are reported in Euros, the currency of the European Union):

(millions)	Quiksilver	Adidas
Net income (loss) (2007)	$ (121.1)	€ 555
Stockholders' equity (2007 year-end)	886.6	3,023
Stockholders' equity (2006 year-end)	881.1	2,828
Total liabilities (2007 year-end)	1,754.9	5,291

Required

1. Calculate the 2007 return on equity (ROE) ratio for both Quiksilver and Adidas.
2. Calculate the 2007 debt-to-equity ratio for both Quiksilver and Adidas.
3. Compare the profitability and risk of Quiksilver and Adidas to that of Nike.

The solution to this review problem can be found on page 35.

> FINANCIAL STATEMENT ANALYSIS

Assessing Liquidity

LO6 Compute net working capital, the current ratio, the quick ratio and explain how they impact liquidity.

Analysts often compare the level of current liabilities with that of current assets. We usually prefer more current assets than current liabilities to ensure that companies have sufficient liquidity to pay their short-term debts when they mature.

Net working capital, or simply working capital, reflects the difference between current assets and current liabilities and is defined as:

$$\text{Net working capital} = \text{Current assets} - \text{Current liabilities}$$

Starbucks' net working capital on September 30, 2007, is negative, ($459.1 million = 1,696.5 − $2,155.6) and represents a decline from 2006. This decline is not a favorable development.

A company's net working capital is one of several measures of a company's ability to pay its debts, a measure of its **liquidity**. The larger the current assets are when compared to its liabilities, the more liquid it is. Because net working capital is in dollars, using it to compare liquidity across firms, industries and over time is difficult. For this reason, the ratio of current assets to current liabilities, called the **current ratio**, is used and is defined as:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

An even more conservative liquidity measure, called the **quick ratio**, replaces current assets with the most liquid of the current assets and is defined as:

$$\text{Quick ratio} = \frac{\text{Cash + Short-term securities + Accounts receivable}}{\text{Current liabilities}}$$

These two liquidity measures for Starbucks at its 2007 fiscal year-end are:

$$\text{Current ratio} = \frac{\$1,696.5}{\$2,155.6} = 0.79 \text{ or } 79\%$$

$$\text{Quick ratio} = \frac{(\$438.7 + \$287.9)}{\$2,155.6} = 0.34 \text{ or } 34\%$$

Current ratios that exceed 1.0 are deemed to represent a strong current liquidity position. However, a current ratio below one is not always bad for at least two reasons:

1. Some firms, including grocery stores, consistently have large operating cash inflows (coupled with some other current assets) that can be used to settle their current liabilities.
2. A company can efficiently manage its working capital by minimizing receivables and inventories while maximizing payables, and still be liquid. **Dell Computer** and **Wal-Mart**, for example, use their strong buying power to extract extended credit terms from suppliers.

EXHIBIT 2.7 Operating Cycle

The net working capital required to conduct business operations depends on the company's **operating cycle**, which is the time between paying cash for goods or employee services and receiving cash from customers—see Exhibit 2.7. The longer the operating cycle the more working capital is required. Starbucks' operating cycle is about 3 months.

Manufacturing companies begin with cash that is used to purchase materials and pay employees engaged in the manufacture of inventories held for resale. In contrast, wholesale and

Required

1. For each of the 6 transactions described: (1) enter their effects in the financial statement effects template, and (2) prepare the related journal entries and T-accounts. Starbucks' ledger includes the following ledger accounts and unadjusted normal balances at September 30: Cash $80,000; Accounts Receivable $95,000; Supplies and Parts $100,000; Building $400,000; Accumulated Depreciation—Building $200,000; Land $257,500; Accounts Payable $20,000; Wages Payable $0; Unearned Revenue $0; Common Stock $80,000; Retained Earnings $380,000; Services Revenue $720,000; Rent Expense $27,500; Depreciation Expense $0; Wages Expense $440,000; Supplies and Parts Expense $0.
2. Set up T-accounts for all ledger accounts in part 1 and enter the beginning unadjusted balance, the adjustments from part 1, and the adjusted ending balance.

The solution to this review problem can be found on pages 128–129.

> CONSTRUCTING FINANCIAL STATEMENTS FROM ADJUSTED ACCOUNTS

LO4 Prepare financial statements from adjusted accounts.

This section explains the preparation of financial statements from the adjusted financial accounts.

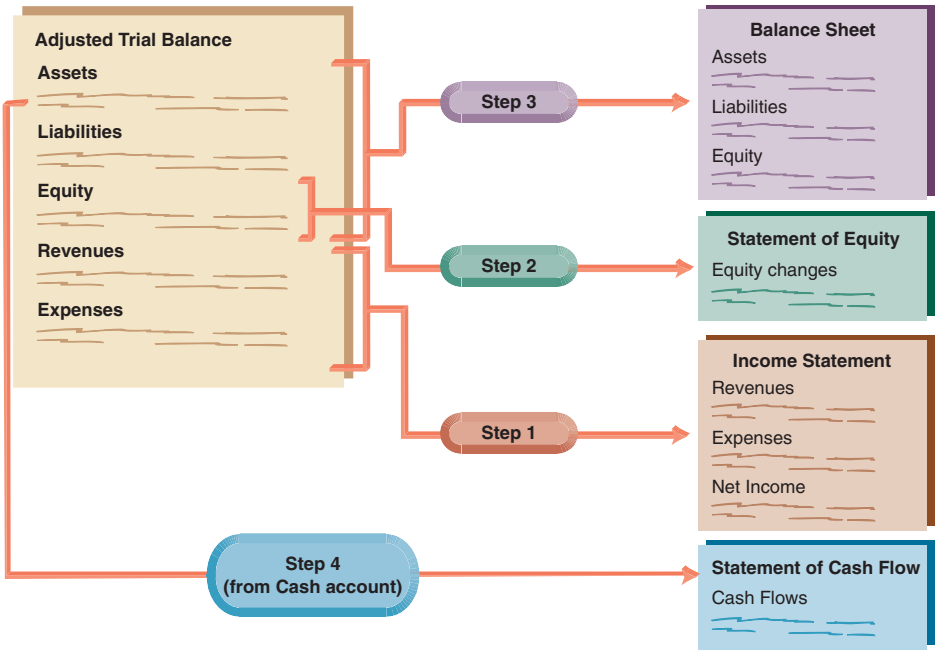
Preparing an Adjusted Trial Balance

After adjustments are recorded and posted, the company prepares an adjusted trial balance. The **adjusted trial balance** lists all the general ledger account balances after adjustments. Much of the content for company financial statements is taken from an adjusted trial balance. Exhibit 3.7 shows the general ledger accounts for Java House after adjustments, in T-account form.

The adjusted trial balance at December 31 for Java House is prepared from its general ledger accounts and is in the right-hand two columns of Exhibit 3.8. We show the unadjusted balances along with the adjustments to highlight the adjustment process.

Preparing Financial Statements

A company prepares its financial statements from the adjusted trial balance (and sometimes other supporting information). The set of financial statements consists of (and is prepared in the order of) the income statement, statement of stockholders' equity, balance sheet, and statement of cash flows. The following diagram summarizes this process.



Transaction	Balance Sheet: Cash Asset	+	Noncash Assets	=	Liabilities	+	Contrib. Capital	+	Earned Capital	Income Statement: Revenues	-	Expenses	=	Net Income
(2) Adjustment to record supplies expense			−25,000 Supplies	=					−25,000 Retained Earnings		-	+25,000 Supplies Expense	=	−25,000

(2) June 30 Supplies expense (+E, −SE) 25,000
Supplies (−A) 25,000
Record supplies used ($31,300 − $6,300).

(3) Adjustment to record depreciation expense			−30,000 Equipment, net	=					−30,000 Retained Earnings		-	+30,000 Depreciation Expense	=	−30,000

(3) June 30 Depreciation expense (+E, −SE) 30,000
Accumulated depreciation—Equipment (+XA, −A) . . . 30,000
Record depreciation [($270,000 − $0) ÷ 9 years].

(4) Adjustment to record fees revenue				=	−3,000 Unearned Fees				+3,000 Retained Earnings	+3,000 Fees Revenue	-		=	+3,000

(4) June 30 Unearned fees (−L) 3,000
Fees revenue (+R, +SE) 3,000
Record fees earned.

(5) Adjustment to record wages expense				=	+600 Wages Payable				−600 Retained Earnings		-	+600 Wages Expense	=	−600

(5) June 30 Wages expense (+E, −SE) 600
Wages payable (+L) 600
Record employee wages incurred.

(6) Adjustment to record rent expense				=	+2,000 Rent Payable				−2000 Retained Earnings		-	+2000 Rent Expense	=	−2000

(6) June 30 Rent expense (+E, −SE) 2,000
Rent payable (+L) 2,000
Record rent owed.

EXHIBIT 4.7 JAVA HOUSE, INC.: Statement of Cash Flows Spreadsheet

	(1) Amount of Change	(2) Effect on Cash Flow	(3) Operating, Investing, or Financing
Accounts receivable	2,500	−2,500	Operating
Inventory	8,300	−8,300	Operating
Prepaid rent	(1,500)	+1,500	Operating
Equipment	—		Investing
Accumulated depreciation—Equipment	500	+500	Operating
Trucks	12,000	−12,000	Investing
Accumulated depreciation—Trucks	200	+200	Operating
Accounts payable	1,000	+1,000	Operating
Interest payable	300	+300	Operating
Wages payable	2,200	+2,200	Operating
Income tax payable	1,855	+1,855	Operating
Unearned revenue	500	+500	Operating
Notes payable	18,000	+18,000	Financing
Common stock	—	—	Financing
Retained earnings	2,445		
Net income		+3,445	Operating
Dividends		−1,000	Financing
Change in cash		+5,700	

3. Identify each account change as either an operating, investing, or financing activity; use Exhibit 4.2 as a guide.
4. Prepare the statement of cash flows from the spreadsheet beginning with the operating activities section followed by investing activities section and concluding with financing activities section; reconcile the beginning and ending balances of the cash account.

To prepare the operating section, we review our completed spreadsheet and list all the items (and related amounts) that we identified as operating activities. Recall that the indirect method involves a series of adjustments to net income. Consequently, the first item listed in the operating section is net income.

The investing section appears next on the statement of cash flows. Again, we just list the items (and related amounts) that we identified as investing activities in our completed spreadsheet. We use the same process to create the financing section of the statement.

Once we have all three sections listed, we total the amounts to derive the net cash flow for the period. A final step in the preparation of the statement is to reconcile the cash balance from the beginning of the period ($5,000) with the cash from the end of the period ($10,700). Exhibit 4.8 presents the completed statement of cash flow for Java House for December. We see that cash flow from operations provides an inflow of $700, cash flow from investing creates an outflow of $12,000, and cash flow from financing provides an inflow of $17,000. Cash flow for the period was positive $5,700, due mostly to its financing activities. It is quite normal for a start-up to generate most, if not all, of its cash flow from financing activities initially. However, for Java House to become a viable entity over the long-term, it will need to generate cash inflows from its operations.

YOU MAKE THE CALL

You are the Chief Accountant—The July 27, 2005, Wall Street Journal reported that Cendant has "agreed to sell its marketing services division for $1.83 million, ending ownership of a business that staggered the company with a $500 million accounting fraud." How would the sale be reflected in Cendant's cash flow statement? [Answer on page 160]

Age Group	Accounts Receivable	Estimated Loss %
1–30 days past due	$ 90,000	1%
31–60 days past due	20,000	2
61–120 days past due	11,000	5
121–180 days past due	6,000	10
Over 180 days past due	4,000	25
Total accounts receivable	$131,000	

The unused balance of the allowance for uncollectible accounts is $520 on December 31, 2008, before any adjustments.

a. What amount of bad debts expense will LaFond report for 2008?
b. What is the balance of accounts receivable that it reports on its December 31, 2008, balance sheet?
c. Set up T-accounts for both Bad Debts Expense and for the Allowance for Uncollectible Accounts. Enter any unadjusted balances along with the dollar effects of the information described (including your results from parts *a* and *b*). Explain the numbers in each of the T-accounts.

E5-36. Analysis of Accounts Receivable and Allowance for Doubtful Accounts. LO4, 5
Ethan Allen Interiors, Inc., reported the following amounts in its 2007 10-K report ($ thousands).

WebAssign

($ thousand)	2007	2006
Accounts receivable, less allowance for doubtful accounts of $2,042 at June 30, 2007 and $2,074 at June 30, 2006	14,602	22,179

Sales revenue totaled $1,005,312 and the footnotes revealed that the company recorded bad debt expense of $10 in fiscal 2007 (both amounts in $ thousands).

a. Prepare the journal entry to record accounts receivable written off as uncollectible in 2007 along with its dollar impacts in the financial statement effects template. Enter the results in T-accounts (including any balances available).
b. What amount of cash was collected from customers in 2007?
c. Compute the accounts receivable turnover for 2007.

E5-37. Analyzing and Reporting Receivable Transactions and Uncollectible Accounts (Using Percentage of Sales Method). LO4

WebAssign

At the beginning of 2008, Penman Company had the following account balances in its financial records:

Accounts Receivable	$122,000
Allowance for Uncollectible Accounts	7,900

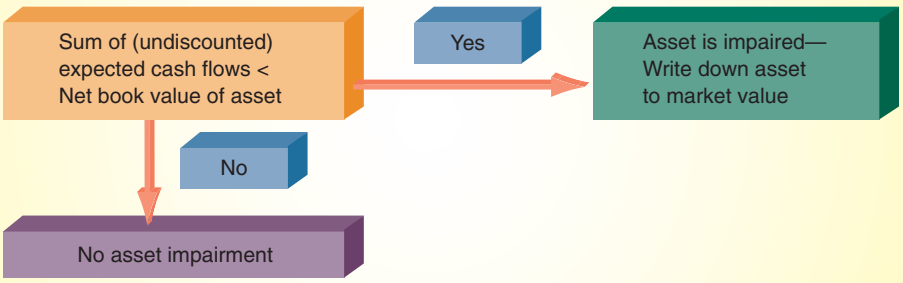
During 2008, its credit sales were $1,173,000 and collections on credit sales were $1,150,000. The following additional transactions occurred during the year:

Feb. 17 Wrote off Nissim's account, $3,600.
May 28 Wrote off Weiss's account, $2,400.
Dec. 15 Wrote off Ohlson's account, $900.
Dec. 31 Recorded the provision for uncollectible accounts at 0.8% of credit sales for the year. (*Hint*: The allowance account is increased by 0.8% of credit sales regardless of any prior write-offs.)

Compute and show how accounts receivable and the allowance for uncollectible accounts are reported in its December 31, 2008, balance sheet.

E5-38. Estimating Bad Debts Expense and Reporting of Receivables. LO4
At December 31, 2008, Sunil Company had a balance of $375,000 in its accounts receivable and an unused balance of $4,200 in its allowance for uncollectible accounts. The company then aged its accounts as follows:

EXHIBIT 7.4 Impairment Analysis of Long-Term Assets



When a company records an impairment charge, assets are reduced by the amount of the write-down and the loss is recognized in the income statement, which reduces current period income. These effects are illustrated in Exhibit 7.5.

EXHIBIT 7.5 Financial Statement Effects of Asset Impairment

Balance Sheet						Income Statement				
Cash Asset	+ Noncash Assets	= Liabilities	+ Contrib. Capital	+ Earned Capital		Revenues	- Expenses	= Net Income		
	Decrease	=		Decrease			- Increase	= Decrease		

Once a depreciable asset is written down, future depreciation charges are reduced by the amount written off. This is because that portion of the asset's cost that is written off is permanently removed from the balance sheet and cannot be subsequently depreciated. It is important to note that management determines if and when to recognize asset impairments. Write-downs of long-term assets are often recognized in connection with a restructuring program.

Analysis of asset write-downs present two potential challenges:

1. *Insufficient write-down*. Assets sometimes are impaired to a larger degree than is recognized. This can arise if management is overly optimistic about future prospects or is reluctant to recognize the full loss in income. Underestimation of an impairment causes current income to be overstated and income in future years to be lower.
2. *Aggressive write-down*. This *big bath* scenario can arise if income is currently and severely depressed. Management's view is that the market will not penalize the firm for an extra write-off, and that doing so purges the balance sheet of costs that would otherwise reduce future years' income. This leads to income being overstated for several years after the write-down.

Neither of these cases is condoned under GAAP. Yet, since management is estimating future cash flows for the impairment test and such estimates are difficult to verify, it has some degree of latitude over the timing and amount of the write-off and can use that discretion to manage reported income.

Footnote Disclosure

Procter & Gamble provides the following footnote to describe its accounting for PPE assets.

> **Property, Plant and Equipment**
> Property, plant and equipment are recorded at cost reduced by accumulated depreciation. Depreciation expense is recognized over the assets' estimated useful lives using the straight-line method. Machinery and equipment includes office furniture and equipment (15-year life), computer equipment and capitalized software (3- to 5-year lives) and manufacturing equipment (3- to 20-year lives). Buildings are depreciated over an estimated useful life of 40 years. Estimated useful lives are periodically reviewed and, where appropriate, changes are made prospectively. Where certain events or changes in operating conditions occur, asset lives may be adjusted and an impairment assessment may be performed on the recoverability of the carrying amounts.

continued from previous page

Note 11—Short-term Borrowings and Long-term Debt	2006	2005
Long-term debt		
2.45% (3.9% effective rate) (2) senior notes due 2006	$ —	$ 500
5.63% (6.3% effective rate) (2) (3) senior notes due 2009	1,300	1,300
4.63% (4.6% effective rate) (3) senior notes due 2012	1,000	1,000
5.00% (5.2% effective rate) senior notes due 2013	400	400
4.13% (4.4% effective rate) senior notes due 2015	250	250
5.50% (5.4% effective rate) senior notes due 2016	800	—
7.00% (7.1% effective rate) senior notes due 2029	1,000	1,000
Capital leases obligations (Note 12)	33	5
Other (average rate 5.2%)	13	106
	4,796	4,561
FAS No. 133 adjustment (1)	(13)	(19)
Unamortized discount, net	(12)	(14)
Current maturities of long-term debt, net	(17)	(589)
	$4,754	$3,939

Financial Covenants—Certain of our senior notes have redemption features and non-financial covenants that will, among other things, limit our ability to create or assume liens, enter into sale and lease-back transactions, engage in mergers or consolidations and transfer or lease all or substantially all of our assets. Additionally, certain of our credit facilities and senior notes have financial covenants consisting of the following:

- Our debt to capitalization ratio should not be greater than .75 on the last day of a fiscal quarter when PepsiCo's ratings are A- by S&P and A3 by Moody's or higher. Debt is defined as total long-term and short-term debt plus accrued interest plus total standby letters of credit and other guarantees less cash and cash equivalents not in excess of $500 million. Capitalization is defined as debt plus shareholders' equity plus minority interest, excluding the impact of the cumulative translation adjustment.
- Our debt to EBITDA ratio should not be greater than five on the last day of a fiscal quarter when PepsiCo's ratings are less than A- by S&P or A3 by Moody's. EBITDA is defined as the last four quarters of earnings before depreciation, amortization, net interest expense, income taxes, minority interest, net other non-operating expenses and extraordinary items.
- New secured debt should not be greater than 15 percent of our net tangible assets. Net tangible assets are defined as total assets less current liabilities and net intangible assets.

We are in compliance with all debt covenants.

Required

a. PBG reports maturities of long-term debt of $17 million as part of its short-term debt. Explain this reporting. PBG reports $1,300 of long-term debt as maturing in 2009. Explain this reporting. Is the $1,300 important in an analysis of PBG? Why or why not?

b. Suppose the $1,000 million of 7% senior notes maturing in 2029 are currently priced at 114.00 resulting in a yield to maturity of 5.87%. What do these facts imply about interest changes since the bonds were issued?

c. Explain how the covenants reported in PBG's 10K might affect a financial analysis of the company.

d. PGB reports unamortized discount of $12 million in 2006. What is unamortized discount, and how does it arise, and what effect will it have on PBG's reported interest expense?

LO3, 4 **P8-52. Recording and Assessing the Effects of Bond Financing (with Accrued Interest)**

Eskew, Inc., which closes its books on December 31, is authorized to issue $500,000 of 9%, 15-year bonds dated May 1, 2009, with interest payments on November 1 and May 1.

Required

Assuming that the bonds were sold at 100 plus accrued interest on October 1, 2009, prepare the necessary journal entries, post the journal entries to their respective T-accounts, and record each transaction in the financial statement effects template.

a. The bond issuance.

b. Payment of the first semiannual period's interest on November 1, 2009.

c. Accrual of bond interest expense at December 31, 2009.

Year	Operating Lease Payment	Discount Factor (i = 0.07)	Present Value
1	$1,066	0.93458	$ 996
2	1,000	0.87344	873
3	888	0.81630	725
4	724	0.76290	552
5	521	0.71299	371
>5	1,504 [521 for ~3 years]	2.62432 × 0.71299	975
			$4,492
Average life	$1,504/$521 = 2.8868 years		

Gap's operating leases represent $4,492 million of unreported operating assets and unreported nonoperating liabilities. These amounts should be added to the balance sheet for analysis purposes.

3. Potential income statement adjustments would include elimination of the rent expense currently reported in Gap's SG&A expenses and replacing it with the depreciation of the capitalized lease asset and the interest on the capitalized lease liability. Whereas rent expense is considered as an operating expense, only the depreciation expense is similarly classified. The interest is, of course, a nonoperating expense. NOPAT, as a result, is increased following the financial statement adjustment for operating lease capitalization.

Mid-Chaper Review 2

Solution

1. A pension benefit obligation increases primarily by service cost, interest cost, and actuarial losses (which are increases in the pension liability as a result of changes in actuarial assumptions). It is decreased by the payment of benefits to retirees and by any actuarial gains.
2. Pension investments increase by positive investment returns for the period and cash contributions made by the company. Investments decrease by benefits paid to retirees and by investment losses.
3. Midwest Airlines' funded status is $(16,622,000) as of 2006. The negative amount indicates that the plan is underfunded. Consequently, this amount is reflected as a liability on its balance sheet.
4. Expected return on plan assets acts as an offset to service cost and interest cost in computing net pension cost. As the expected return increases, net pension cost decreases.
5. Midwest Airlines' expected return of $506,000 is equal to its actual return of $506,000 in 2006.
6. Midwest Airlines reports a net pension cost of $3,021,000 in its 2006 income statement.
7. Midwest Airlines' funded status is negative, indicating a severely underfunded plan. In 2006, the company contributed $1,644,000 to the pension plan, up from $1,472,000 in the prior year. It is likely that the company will need to increase its future funding levels to cover the plan's requirements. This might have negative repercussions for its ability to fund other operating needs, and can eventually damage its competitive position.

Chapter-End Review

Solution

1. (a) $2,390,000; (b) $1,488,000, computed as $1,342,000 in domestic taxes plus $146,000 in foreign taxes; (c) Deferred tax liabilities increase when taxable income is less than GAAP income. This situation arises when plant assets are being depreciated faster for tax purposes than in the financial statements, or when revenue is recognized later in the tax return.
2.

	Balance Sheet					Income Statement				
Transaction	Cash Asset +	Noncash Assets	= Liabilities	+ Contrib. Capital	+ Earned Capital	Revenues	- Expenses	= Net Income		
Entry to record income tax expense	−1,488,000 Cash		= +902,000 Deferred Tax Liability		−2,390,000 Retained Earnings		- +2,390,000 Provision for Income Taxes	= −2,390,000		

ANALYZE

JOURNALIZE

Provision for Income Taxes (+E, −SE) 2,390,000
Deferred Tax Liability (+L) 902,000
Cash (−A) 1,488,000

POST

Provision for Income Taxes (E)	
2,390,000	

Cash (A)	
	1,488,000

Deferred Tax Liability (L)	
	902,000

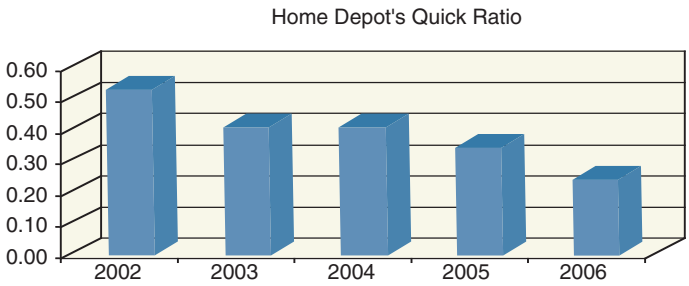
$$\text{Quick ratio} = \frac{\text{Cash + Short-term securities + Accounts receivable}}{\text{Current liabilities}}$$

The quick ratio reflects on a company's ability to meet its current liabilities without liquidating inventories that could require markdowns. It is a more stringent test of liquidity than the current ratio.

Home Depot's 2006 quick ratio is 0.25 $\left(\frac{\$793 \text{ million} + \$14 \text{ million} + \$2{,}396 \text{ million}}{\$12{,}901 \text{ million}}\right)$, compared with 0.35 $\left(\frac{\$506 \text{ million} + \$1{,}659 \text{ million} + \$1{,}499 \text{ million}}{\$10{,}455 \text{ million}}\right)$ in 2005, and has steadily declined over the past five years—see graph. It is not uncommon for a company's quick ratio to be less than 1.0. Home Depot's liquidity has declined according to the quick ratio, which is similar to the pattern of its current ratio over recent years. Although liquidity is not a major concern for Home Depot, the current decline is something financial statement users would want to monitor.

Solvency Analysis

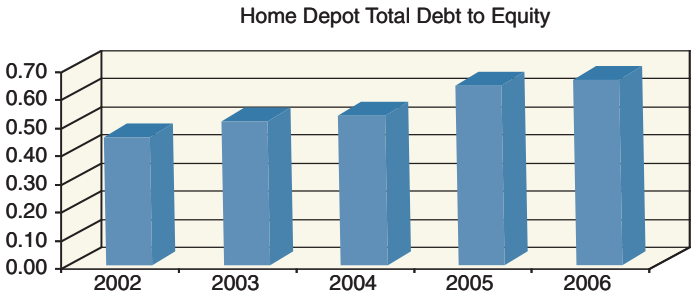
Solvency refers to a company's ability to meet its debt obligations, including both periodic interest payments and the repayment of the principal amount borrowed. Solvency is crucial since an insolvent company is a failed company. There are two general approaches to measuring solvency. The first approach uses balance sheet data and assesses the proportion of capital raised from creditors. The second approach uses income statement data and assesses the profit generated relative to debt payment obligations. We discuss each approach in turn.



Debt-to-Equity

The debt-to-equity ratio, which was introduced in Chapter 1, is a useful tool for the first type of solvency analysis. It is defined as follows:

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



This ratio conveys how reliant a company is on creditor financing compared with equity financing. A higher ratio indicates less solvency, and more risk. Home Depot's 2006 debt-to-equity ratio is 0.65 $\left(\frac{\$12{,}901 \text{ million} + \$2{,}672 \text{ million} + \$2{,}000 \text{ million}}{\$26{,}909 \text{ million}}\right)$, and for 2005 it is 0.62 $\left(\frac{\$10{,}455 \text{ million} + \$2{,}148 \text{ million} + \$2{,}259 \text{ million}}{\$24{,}158 \text{ million}}\right)$. This ratio has consistently increased for Home Depot over the past five years—see graph. Still, its ratio is lower than 1.0, the average for publicly traded companies.

A variant of this ratio considers a company's *long-term* debt divided by equity. This approach assumes that current liabilities are repaid from current assets (so-called self-liquidating). Thus, it assumes that creditors and stockholders need only focus on the relative proportion of long-term capital.

Times Interest Earned

The second type of solvency analysis compares profits to liabilities. This approach assesses how much operating profit is available to cover debt obligations. A common measure for this type of solvency analysis is the times interest earned ratio (see Chapter 8) defined as follows:

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

The times interest earned ratio reflects the operating income available to pay interest expense. The underlying assumption is that only interest needs to be paid because the principal will be refinanced.

APPENDIX A

> Compound Interest Tables

TABLE 1 Present Value of Single Amount $p = 1/(1 + i)^t$

	Interest Rate											
Period	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12
1	0.99010	0.98039	0.97087	0.96154	0.95238	0.94340	0.93458	0.92593	0.91743	0.90909	0.90090	0.89286
2	0.98030	0.96117	0.94260	0.92456	0.90703	0.89000	0.87344	0.85734	0.84168	0.82645	0.81162	0.79719
3	0.97059	0.94232	0.91514	0.88900	0.86384	0.83962	0.81630	0.79383	0.77218	0.75131	0.73119	0.71178
4	0.96098	0.92385	0.88849	0.85480	0.82270	0.79209	0.76290	0.73503	0.70843	0.68301	0.65873	0.63552
5	0.95147	0.90573	0.86261	0.82193	0.78353	0.74726	0.71299	0.68058	0.64993	0.62092	0.59345	0.56743
6	0.94205	0.88797	0.83748	0.79031	0.74622	0.70496	0.66634	0.63017	0.59627	0.56447	0.53464	0.50663
7	0.93272	0.87056	0.81309	0.75992	0.71068	0.66506	0.62275	0.58349	0.54703	0.51316	0.48166	0.45235
8	0.92348	0.85349	0.78941	0.73069	0.67684	0.62741	0.58201	0.54027	0.50187	0.46651	0.43393	0.40388
9	0.91434	0.83676	0.76642	0.70259	0.64461	0.59190	0.54393	0.50025	0.46043	0.42410	0.39092	0.36061
10	0.90529	0.82035	0.74409	0.67556	0.61391	0.55839	0.50835	0.46319	0.42241	0.38554	0.35218	0.32197
11	0.89632	0.80426	0.72242	0.64958	0.58468	0.52679	0.47509	0.42888	0.38753	0.35049	0.31728	0.28748
12	0.88745	0.78849	0.70138	0.62460	0.55684	0.49697	0.44401	0.39711	0.35553	0.31863	0.28584	0.25668
13	0.87866	0.77303	0.68095	0.60057	0.53032	0.46884	0.41496	0.36770	0.32618	0.28966	0.25751	0.22917
14	0.86996	0.75788	0.66112	0.57748	0.50507	0.44230	0.38782	0.34046	0.29925	0.26333	0.23199	0.20462
15	0.86135	0.74301	0.64186	0.55526	0.48102	0.41727	0.36245	0.31524	0.27454	0.23939	0.20900	0.18270
16	0.85282	0.72845	0.62317	0.53391	0.45811	0.39365	0.33873	0.29189	0.25187	0.21763	0.18829	0.16312
17	0.84438	0.71416	0.60502	0.51337	0.43630	0.37136	0.31657	0.27027	0.23107	0.19784	0.16963	0.14564
18	0.83602	0.70016	0.58739	0.49363	0.41552	0.35034	0.29586	0.25025	0.21199	0.17986	0.15282	0.13004
19	0.82774	0.68643	0.57029	0.47464	0.39573	0.33051	0.27651	0.23171	0.19449	0.16351	0.13768	0.11611
20	0.81954	0.67297	0.55368	0.45639	0.37689	0.31180	0.25842	0.21455	0.17843	0.14864	0.12403	0.10367
21	0.81143	0.65978	0.53755	0.43883	0.35894	0.29416	0.24151	0.19866	0.16370	0.13513	0.11174	0.09256
22	0.80340	0.64684	0.52189	0.42196	0.34185	0.27751	0.22571	0.18394	0.15018	0.12285	0.10067	0.08264
23	0.79544	0.63416	0.50669	0.40573	0.32557	0.26180	0.21095	0.17032	0.13778	0.11168	0.09069	0.07379
24	0.78757	0.62172	0.49193	0.39012	0.31007	0.24698	0.19715	0.15770	0.12640	0.10153	0.08170	0.06588
25	0.77977	0.60953	0.47761	0.37512	0.29530	0.23300	0.18425	0.14602	0.11597	0.09230	0.07361	0.05882
30	0.74192	0.55207	0.41199	0.30832	0.23138	0.17411	0.13137	0.09938	0.07537	0.05731	0.04368	0.03338
35	0.70591	0.50003	0.35538	0.25342	0.18129	0.13011	0.09366	0.06763	0.04899	0.03558	0.02592	0.01894
40	0.67165	0.45289	0.30656	0.20829	0.14205	0.09722	0.06678	0.04603	0.03184	0.02209	0.01538	0.01075

TABLE 2 Present Value of Ordinary Annuity

$$p = \{1 - [1/(1 + i)^t]\}/i$$

	Interest Rate											
Period	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12
1	0.99010	0.98039	0.97087	0.96154	0.95238	0.94340	0.93458	0.92593	0.91743	0.90909	0.90090	0.89286
2	1.97040	1.94156	1.91347	1.88609	1.85941	1.83339	1.80802	1.78326	1.75911	1.73554	1.71252	1.69005
3	2.94099	2.88388	2.82861	2.77509	2.72325	2.67301	2.62432	2.57710	2.53129	2.48685	2.44371	2.40183
4	3.90197	3.80773	3.71710	3.62990	3.54595	3.46511	3.38721	3.31213	3.23972	3.16987	3.10245	3.03735
5	4.85343	4.71346	4.57971	4.45182	4.32948	4.21236	4.10020	3.99271	3.88965	3.79079	3.69590	3.60478
6	5.79548	5.60143	5.41719	5.24214	5.07569	4.91732	4.76654	4.62288	4.48592	4.35526	4.23054	4.11141
7	6.72819	6.47199	6.23028	6.00205	5.78637	5.58238	5.38929	5.20637	5.03295	4.86842	4.71220	4.56376
8	7.65168	7.32548	7.01969	6.73274	6.46321	6.20979	5.97130	5.74664	5.53482	5.33493	5.14612	4.96764
9	8.56602	8.16224	7.78611	7.43533	7.10782	6.80169	6.51523	6.24689	5.99525	5.75902	5.53705	5.32825
10	9.47130	8.98259	8.53020	8.11090	7.72173	7.36009	7.02358	6.71008	6.41766	6.14457	5.88923	5.65022
11	10.36763	9.78685	9.25262	8.76048	8.30641	7.88687	7.49867	7.13896	6.80519	6.49506	6.20652	5.93770
12	11.25508	10.57534	9.95400	9.38507	8.86325	8.38384	7.94269	7.53608	7.16073	6.81369	6.49236	6.19437
13	12.13374	11.34837	10.63496	9.98565	9.39357	8.85268	8.35765	7.90378	7.48690	7.10336	6.74987	6.42355
14	13.00370	12.10625	11.29607	10.56312	9.89864	9.29498	8.74547	8.24424	7.78615	7.36669	6.98187	6.62817
15	13.86505	12.84926	11.93794	11.11839	10.37966	9.71225	9.10791	8.55948	8.06069	7.60608	7.19087	6.81086
16	14.71787	13.57771	12.56110	11.65230	10.83777	10.10590	9.44665	8.85137	8.31256	7.82371	7.37916	6.97399
17	15.56225	14.29187	13.16612	12.16567	11.27407	10.47726	9.76322	9.12164	8.54363	8.02155	7.54879	7.11963
18	16.39827	14.99203	13.75351	12.65930	11.68959	10.82760	10.05909	9.37189	8.75563	8.20141	7.70162	7.24967
19	17.22601	15.67846	14.32380	13.13394	12.08532	11.15812	10.33560	9.60360	8.95011	8.36492	7.83929	7.36578
20	18.04555	16.35143	14.87747	13.59033	12.46221	11.46992	10.59401	9.81815	9.12855	8.51356	7.96333	7.46944
21	18.85698	17.01121	15.41502	14.02916	12.82115	11.76408	10.83553	10.01680	9.29224	8.64869	8.07507	7.56200
22	19.66038	17.65805	15.93692	14.45112	13.16300	12.04158	11.06124	10.20074	9.44243	8.77154	8.17574	7.64465
23	20.45582	18.29220	16.44361	14.85684	13.48857	12.30338	11.27219	10.37106	9.58021	8.88322	8.26643	7.71843
24	21.24339	18.91393	16.93554	15.24696	13.79864	12.55036	11.46933	10.52876	9.70661	8.98474	8.34814	7.78432
25	22.02316	19.52346	17.41315	15.62208	14.09394	12.78336	11.65358	10.67478	9.82258	9.07704	8.42174	7.84314
30	25.80771	22.39646	19.60044	17.29203	15.37245	13.76483	12.40904	11.25778	10.27365	9.42691	8.69379	8.05518
35	29.40858	24.99862	21.48722	18.66461	16.37419	14.49825	12.94767	11.65457	10.56682	9.64416	8.85524	8.17550
40	32.83469	27.35548	23.11477	19.79277	17.15909	15.04630	13.33171	11.92461	10.75736	9.77905	8.95105	8.24378

TABLE 3 Future Value of Single Amount

$$f = (1 + i)^t$$

	Interest Rate											
Period	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12
1	1.01000	1.02000	1.03000	1.04000	1.05000	1.06000	1.07000	1.08000	1.09000	1.10000	1.11000	1.12000
2	1.02010	1.04040	1.06090	1.08160	1.10250	1.12360	1.14490	1.16640	1.18810	1.21000	1.23210	1.25440
3	1.03030	1.06121	1.09273	1.12486	1.15763	1.19102	1.22504	1.25971	1.29503	1.33100	1.36763	1.40493
4	1.04060	1.08243	1.12551	1.16986	1.21551	1.26248	1.31080	1.36049	1.41158	1.46410	1.51807	1.57352
5	1.05101	1.10408	1.15927	1.21665	1.27628	1.33823	1.40255	1.46933	1.53862	1.61051	1.68506	1.76234
6	1.06152	1.12616	1.19405	1.26532	1.34010	1.41852	1.50073	1.58687	1.67710	1.77156	1.87041	1.97382
7	1.07214	1.14869	1.22987	1.31593	1.40710	1.50363	1.60578	1.71382	1.82804	1.94872	2.07616	2.21068
8	1.08286	1.17166	1.26677	1.36857	1.47746	1.59385	1.71819	1.85093	1.99256	2.14359	2.30454	2.47596
9	1.09369	1.19509	1.30477	1.42331	1.55133	1.68948	1.83846	1.99900	2.17189	2.35795	2.55804	2.77308
10	1.10462	1.21899	1.34392	1.48024	1.62889	1.79085	1.96715	2.15892	2.36736	2.59374	2.83942	3.10585
11	1.11567	1.24337	1.38423	1.53945	1.71034	1.89830	2.10485	2.33164	2.58043	2.85312	3.15176	3.47855
12	1.12683	1.26824	1.42576	1.60103	1.79586	2.01220	2.25219	2.51817	2.81266	3.13843	3.49845	3.89598
13	1.13809	1.29361	1.46853	1.66507	1.88565	2.13293	2.40985	2.71962	3.06580	3.45227	3.88328	4.36349
14	1.14947	1.31948	1.51259	1.73168	1.97993	2.26090	2.57853	2.93719	3.34173	3.79750	4.31044	4.88711
15	1.16097	1.34587	1.55797	1.80094	2.07893	2.39656	2.75903	3.17217	3.64248	4.17725	4.78459	5.47357
16	1.17258	1.37279	1.60471	1.87298	2.18287	2.54035	2.95216	3.42594	3.97031	4.59497	5.31089	6.13039
17	1.18430	1.40024	1.65285	1.94790	2.29202	2.69277	3.15882	3.70002	4.32763	5.05447	5.89509	6.86604
18	1.19615	1.42825	1.70243	2.02582	2.40662	2.85434	3.37993	3.99602	4.71712	5.55992	6.54355	7.68997
19	1.20811	1.45681	1.75351	2.10685	2.52695	3.02560	3.61653	4.31570	5.14166	6.11591	7.26334	8.61276
20	1.22019	1.48595	1.80611	2.19112	2.65330	3.20714	3.86968	4.66096	5.60441	6.72750	8.06231	9.64629
21	1.23239	1.51567	1.86029	2.27877	2.78596	3.39956	4.14056	5.03383	6.10881	7.40025	8.94917	10.80385
22	1.24472	1.54598	1.91610	2.36992	2.92526	3.60354	4.43040	5.43654	6.65860	8.14027	9.93357	12.10031
23	1.25716	1.57690	1.97359	2.46472	3.07152	3.81975	4.74053	5.87146	7.25787	8.95430	11.02627	13.55235
24	1.26973	1.60844	2.03279	2.56330	3.22510	4.04893	5.07237	6.34118	7.91108	9.84973	12.23916	15.17863
25	1.28243	1.64061	2.09378	2.66584	3.38635	4.29187	5.42743	6.84848	8.62308	10.83471	13.58546	17.00006
30	1.34785	1.81136	2.42726	3.24340	4.32194	5.74349	7.61226	10.06266	13.26768	17.44940	22.89230	29.95992
35	1.41660	1.99989	2.81386	3.94609	5.51602	7.68609	10.67658	14.78534	20.41397	28.10244	38.57485	52.79962
40	1.48886	2.20804	3.26204	4.80102	7.03999	10.28572	14.97446	21.72452	31.40942	45.25926	65.00087	93.05097

TABLE 3 Future Value of an Ordinary Annuity

$$f = [(1 + i)^t - 1]/i$$

	Interest Rate											
Period	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12
1	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
2	2.01000	2.02000	2.03000	2.04000	2.05000	2.06000	2.07000	2.08000	2.09000	2.10000	2.11000	2.12000
3	3.03010	3.06040	3.09090	3.12160	3.15250	3.18360	3.21490	3.24640	3.27810	3.31000	3.34210	3.37440
4	4.06040	4.12161	4.18363	4.24646	4.31013	4.37462	4.43994	4.50611	4.57313	4.64100	4.70973	4.77933
5	5.10101	5.20404	5.30914	5.41632	5.52563	5.63709	5.75074	5.86660	5.98471	6.10510	6.22780	6.35285
6	6.15202	6.30812	6.46841	6.63298	6.80191	6.97532	7.15329	7.33593	7.52333	7.71561	7.91286	8.11519
7	7.21354	7.43428	7.66246	7.89829	8.14201	8.39384	8.65402	8.92280	9.20043	9.48717	9.78327	10.08901
8	8.28567	8.58297	8.89234	9.21423	9.54911	9.89747	10.25980	10.63663	11.02847	11.43589	11.85943	12.29969
9	9.36853	9.75463	10.15911	10.58280	11.02656	11.49132	11.97799	12.48756	13.02104	13.57948	14.16397	14.77566
10	10.46221	10.94972	11.46388	12.00611	12.57789	13.18079	13.81645	14.48656	15.19293	15.93742	16.72201	17.54874
11	11.56683	12.16872	12.80780	13.48635	14.20679	14.97164	15.78360	16.64549	17.56029	18.53117	19.56143	20.65458
12	12.68250	13.41209	14.19203	15.02581	15.91713	16.86994	17.88845	18.97713	20.14072	21.38428	22.71319	24.13313
13	13.80933	14.68033	15.61779	16.62684	17.71298	18.88214	20.14064	21.49530	22.95338	24.52271	26.21164	28.02911
14	14.94742	15.97394	17.08632	18.29191	19.59863	21.01507	22.55049	24.21492	26.01919	27.97498	30.09492	32.39260
15	16.09690	17.29342	18.59891	20.02359	21.57856	23.27597	25.12902	27.15211	29.36092	31.77248	34.40536	37.27971
16	17.25786	18.63929	20.15688	21.82453	23.65749	25.67253	27.88805	30.32428	33.00340	35.94973	39.18995	42.75328
17	18.43044	20.01207	21.76159	23.69751	25.84037	28.21288	30.84022	33.75023	36.97370	40.54470	44.50084	48.88367
18	19.61475	21.41231	23.41444	25.64541	28.13238	30.90565	33.99903	37.45024	41.30134	45.59917	50.39594	55.74971
19	20.81090	22.84056	25.11687	27.67123	30.53900	33.75999	37.37896	41.44626	46.01846	51.15909	56.93949	63.43968
20	22.01900	24.29737	26.87037	29.77808	33.06595	36.78559	40.99549	45.76196	51.16012	57.27500	64.20283	72.05244
21	23.23919	25.78332	28.67649	31.96920	35.71925	39.99273	44.86518	50.42292	56.76453	64.00250	72.26514	81.69874
22	24.47159	27.29898	30.53678	34.24797	38.50521	43.39229	49.00574	55.45676	62.87334	71.40275	81.21431	92.50258
23	25.71630	28.84496	32.45288	36.61789	41.43048	46.99583	53.43614	60.89330	69.53194	79.54302	91.14788	104.60289
24	26.97346	30.42186	34.42647	39.08260	44.50200	50.81558	58.17667	66.76476	76.78981	88.49733	102.17415	118.15524
25	28.24320	32.03030	36.45926	41.64591	47.72710	54.86451	63.24904	73.10594	84.70090	98.34706	114.41331	133.33387
30	34.78489	40.56808	47.57542	56.08494	66.43885	79.05819	94.46079	113.28321	136.30754	164.49402	199.02088	241.33268
35	41.66028	49.99448	60.46208	73.65222	90.32031	111.43478	138.23688	172.31680	215.71075	271.02437	341.58955	431.66350
40	48.88637	60.40198	75.40126	95.02552	120.79977	154.76197	199.63511	259.05652	337.88245	442.59256	581.82607	767.09142