chapter 13

Analyzing Financial Statements

The history of The Home Depot is an unusual success story. Founded in 1978 in Atlanta, The Home Depot has grown to be America's largest home improvement retailer, with over 2,200 stores in the United States, Canada, China, and Mexico. According to *Fortune* magazine, The Home Depot is one of the nation's 30 largest retailers. Financial statements for The Home Depot are presented in Exhibit 13.1. As you can see, The Home Depot's rapid growth has resumed after a few years of slower growth due primarily to a difficult economic environment. Sales revenue for the year ended January 29, 2012, was 3.5 percent more than the previous year and income increased 16 percent.

With the recent improvement in the company's financial results, would you want to invest in The Home Depot? A number of professional analysts think you should, including those who work for Edward Jones, a large brokerage firm. In a report in which they recommended holding stock in The Home Depot, they wrote: "We expect market share growth, continued cost management and share repurchases to drive opportunities for earnings per share growth. We find Home Depot's market dominance, earnings growth outlook, and attractive dividend yield reasons to hold the shares."

Learning Objectives

After studying this chapter, you should be able to:

FOCUS COMPANY:

The Home Depot

FINANCIAL ANALYSIS: BRINGING IT ALL TOGETHER

www.homedepot.com

Professional analysts consider a large number of factors in developing the type of recommendation contained in the Edward Jones report, including information reported in a company's financial statements. In this chapter, we use accounting information and a variety of analytical tools to study The Home Depot and its major competitor, Lowe's.

UNDERSTANDING THE BUSINESS

Companies spend billions of dollars each year preparing, auditing, and publishing their financial statements. These statements are then mailed to current and prospective investors. Most companies also make financial information available to investors on the Internet. The Home Depot has a particularly interesting home page (**http://www.homedepot.com**) that contains current financial statements, recent news articles about the company, and a variety of relevant information.

The reason that The Home Depot and other companies spend so much money to provide information to investors is simple: Financial statements help people make better economic decisions. In fact, published financial statements are designed primarily to meet the needs of external decision makers, including present and potential owners, investment analysts, and creditors.

EXHIBIT 13.1

The Home Depot Financial Statements

THE HOME DEPOT, INC., AND SUBSIDIARIES
Consolidated Statements of Earnings
(amounts in millions, except per share data)

	Fiscal Year Ended		
	January 29, 2012	January 30, 2011	January 31, 2010
NET SALES	$70,395	$67,997	$66,176
Cost of Sales	46,133	44,693	43,764
Gross Profit	24,262	23,304	22,412
Operating Expenses:			
Selling, General and Administrative	16,028	15,849	15,902
Depreciation and Amortization	1,573	1,616	1,707
Total Operating Expenses	17,601	17,465	17,609
Operating Income	6,661	5,839	4,803
Interest and Other (Income) Expense:			
Interest and Investment Income	(13)	(15)	(18)
Interest Expense	606	530	676
Other	—	51	163
Interest and Other, net	593	566	821
Earnings from Continuing Operations before Provision for Income Taxes	6,068	5,273	3,982
Provision for Income Taxes	2,185	1,935	1,362
Earnings from Continuing Operations	3,883	3,338	2,620
Earnings from Discontinued Operations, Net of Tax	—	—	41
Net Earnings	$ 3,883	$ 3,338	$ 2,661
Weighted Average Common Shares	1,562	1,648	1,683
Basic Earnings per Share from Continuing Operations	$ 2.49	$ 2.03	$ 1.56
Basic Earnings per Share from Discontinued Operations	$ —	$ —	$ 0.02
Basic Earnings per Share	$ 2.49	$ 2.03	$ 1.58
Diluted Weighted Average Common Shares	1,570	1,658	1,692
Diluted Earnings per Share from Continuing Operations	$ 2.47	$ 2.01	$ 1.55
Diluted Earnings per Share from Discontinued Operations	$ —	$ —	$ 0.02
Diluted Earnings per Share	$ 2.47	$ 2.01	$ 1.57

EXHIBIT 13.1

THE HOME DEPOT, INC., AND SUBSIDIARIES
Consolidated Balance Sheets
(amounts in millions, except share and per share data)

	January 29, 2012	January 30, 2011
ASSETS		
Current Assets:		
Cash and Cash Equivalents	$ 1,987	$ 545
Receivables, net	1,245	1,085
Merchandise Inventories	10,325	10,625
Other Current Assets	963	1,224
Total Current Assets	14,520	13,479
Property and Equipment, at cost:		
Land	8,480	8,497
Buildings	17,737	17,606
Furniture, Fixtures, and Equipment	10,040	9,687
Leasehold Improvements	1,372	1,373
Construction in Progress	758	654
Capital Leases	588	568
	38,975	38,385
Less Accumulated Depreciation and Amortization	14,527	13,325
Net Property and Equipment	24,448	25,060
Notes Receivable	135	139
Goodwill	1,120	1,187
Other Assets	295	260
Total Assets	$40,518	$40,125
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts Payable	$ 4,856	$ 4,717
Accrued Salaries and Related Expenses	1,372	1,290
Sales Taxes Payable	391	368
Deferred Revenue	1,147	1,177
Income Taxes Payable	23	13
Current Installments of Long-Term Debt	30	1,042
Other Accrued Expenses	1,557	1,515
Total Current Liabilities	9,376	10,122
Long-Term Debt, excluding current installments	10,758	8,707
Other Long-Term Liabilities	2,146	2,135
Deferred Income Taxes	340	272
Total Liabilities	22,620	21,236

continued

EXHIBIT 13.1

STOCKHOLDERS' EQUITY		
Common Stock, par value $0.05; authorized: 10 billion shares; issued: 1.733 billion shares at January 29, 2012, and 1.722 billion shares at January 30, 2011; outstanding: 1.537 billion shares at January 29, 2012, and 1.623 billion shares at January 30, 2011	87	86
Paid-In Capital	6,966	6,556
Retained Earnings	17,246	14,995
Accumulated Other Comprehensive Income	293	445
Treasury Stock, at cost, 196 million shares at January 29, 2012, and 99 million shares at January 30, 2011	(6,694)	(3,193)
Total Stockholders' Equity	17,898	18,889
Total Liabilities and Stockholders' Equity	$40,518	$40,125

THE HOME DEPOT, INC., AND SUBSIDIARIES

Consolidated Statements of Cash Flows

(amounts in millions)

	Fiscal Year Ended		
	January 29, 2012	January 30, 2011	January 31, 2010
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net Earnings	$ 3,883	$ 3,338	$2,661
Reconciliation of Net Earnings to Net Cash Provided by Operating Activities:			
Depreciation and Amortization	1,682	1,718	1,806
Impairment of Investment	—	—	163
Stock-Based Compensation Expense	215	214	201
Changes in Assets and Liabilities, net of the effects of acquisition and disposition:			
Receivables, net	(170)	(102)	(23)
Merchandise Inventories	256	(355)	625
Other Current Assets	159	12	4
Accounts Payable and Accrued Expenses	422	(133)	59
Deferred Revenue	(29)	10	(21)
Income Taxes Payable	14	(85)	(174)
Deferred Income Taxes	170	104	(227)
Other Long-Term Liabilities	(2)	(61)	(19)
Other	51	(75)	70
Net Cash Provided by Operating Activities	6,651	4,585	5,125
CASH FLOWS FROM INVESTING ACTIVITIES:			
Capital Expenditures, net of $25, $62, and $10 of non-cash capital expenditures in fiscal 2011, 2010, and 2009, respectively	(1,221)	(1,096)	(966)
Proceeds from Sale of Business, net	101	—	—
Payments for Business Acquired, net	(65)	—	—
Proceeds from Sales of Property and Equipment	56	84	178
Proceeds from Sales and Maturities of Investments	—	—	33
Net Cash Used in Investing Activities	(1,129)	(1,012)	(755)

EXHIBIT 13.1

CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from Long-Term Borrowings, net of discount	1,994	998	—
Repayments of Long-Term Debt	(1,028)	(1,029)	(1,774)
Repurchases of Common Stock	(3,470)	(2,608)	(213)
Proceeds from Sales of Common Stock	306	104	73
Cash Dividends Paid to Stockholders	(1,632)	(1,569)	(1,525)
Other Financing Activities	(218)	(347)	(64)
Net Cash Used in Financing Activities	(4,048)	(4,451)	(3,503)
Change in Cash and Cash Equivalents	1,474	(878)	867
Effect of Exchange Rate Changes on Cash and Cash Equivalents	(32)	2	35
Cash and Cash Equivalents at Beginning of Year	545	1,421	519
Cash and Cash Equivalents at End of Year	$ 1,987	$ 545	$ 1,421
SUPPLEMENTAL DISCLOSURE OF CASH PAYMENTS MADE FOR:			
Interest, net of interest capitalized	$ 580	$ 579	$ 664
Income Taxes	$ 1,865	$ 2,067	$ 2,082

ORGANIZATION of the Chapter

- The Investment Decision
- Understanding a Company's Strategy
  - Component Percentages
  - Tests of Profitability
    1. Return on Equity (ROE)
    2. Return on Assts (ROA)
    3. Financial Leverage Percentage
    4. Earnings per Share (EPS)
    5. Quality of Income
    6. Profit Margin
    7. Fixed Asset Turnover Ratio
- Financial Statement Analysis
  - Tests of Liquidity
    8. Cash Ratio
    9. Current Ratio
    10. Quick Ratio (Acid Test)
    11. Receivable Turnover Ratio
    12. Inventory Turnover Ratio
- Ratio and Percentage Analysis
  - Tests of Solvency
    13. Times Interest Earned Ratio
    14. Cash Coverage Ratio
    15. Debt-to-Equity Ratio
  - Market Tests
    16. Price/Earnings (P/E) Ratio
    17. Dividend Yield Ratio
- Interpreting Ratios and Other Analytical Considerations
  - Other Financial Information
  - Information in an Efficient Market

THE INVESTMENT DECISION

Of the people who use financial statements, investors are perhaps the single largest group. They often rely on the advice of professional analysts, who develop recommendations on widely held stocks such as The Home Depot. Most individual investors use analysts' reports and track

their recommendations. As this book was being written, professional analysts issued the following investment recommendations for The Home Depot:

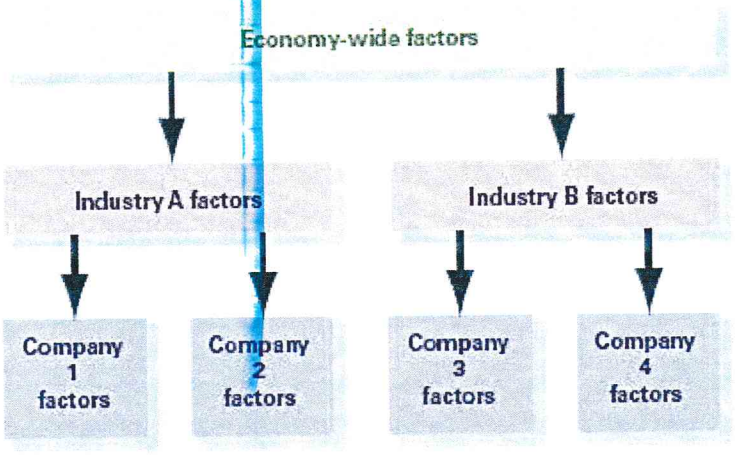
ANALYST OPINIONS

Rating	Number of Analysts
Buy	13
Outperform	1
Hold	9
Underperform	0
Sell	0

Source: Quicken.com/investments/.

Perhaps the most important thing to notice about this summary of investment recommendations is the degree of disagreement. Currently, 13 analysts recommend buying more Home Depot stock, while 9 others recommend holding Home Depot stock only if one already owns it. This level of disagreement shows that financial analysis is part art and part science.

In considering an investment in stock, investors should evaluate the company's future income and growth potential on the basis of three factors:



1. **Economy-wide factors.** Often the overall health of the economy has a direct impact on the performance of an individual business. Investors should consider data such as the unemployment rate, general inflation rate, and changes in interest rates. For example, in a research report issued by the Edward Jones brokerage firm, an analyst determined "rising interest rates could negatively impact Home Depot's sales." The reason for a negative impact on sales, according to the analyst, is the fact that nearly one-third of the dollars saved on refinancing mortgages are spent on home improvement projects.
2. **Industry factors.** Certain events can have a major impact on each company within an industry but only a minor impact on other companies outside the industry. For example, the Edward Jones report predicted "home-improvement spending could be negatively impacted by a decline in housing turnover and difficult comparisons from the recent period of unsustainable high growth."
3. **Individual company factors.** To properly analyze a company, good analysts do not rely only on the information contained in the financial statements. They visit the company, buy its products, and read about it in the business press. If you evaluate McDonald's, it is equally important to assess the quality of its balance sheet and the quality of its Big Mac. An example of company-specific information is contained in the Edward Jones report: New managers have been hired because the management skills "that grew Home Depot to 1,000 stores [were] probably different from the skill set needed as the company grows beyond 2,000 stores."

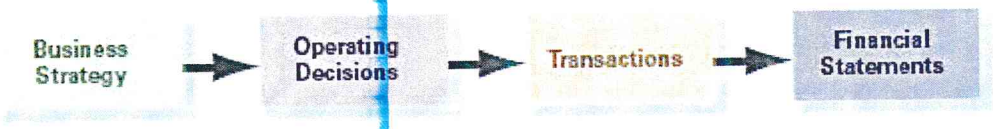
Besides considering these factors, investors should understand a company's business strategy when evaluating its financial statements. Before discussing analytical techniques, we will show how business strategy affects financial statement analysis.

UNDERSTANDING A COMPANY'S STRATEGY

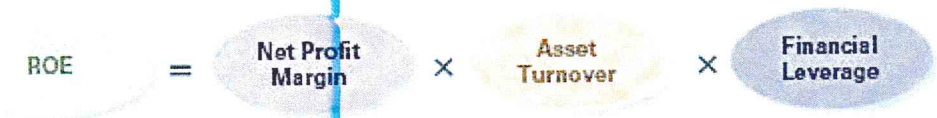
LEARNING OBJECTIVE 13-1

Explain how a company's business strategy affects financial analysis.

Financial statement analysis involves more than just "crunching numbers." Before you start looking at numbers, you should know what you are looking for. While financial statements report on transactions, each of those transactions is the result of a company's operating decisions as it implements its business strategy.



The **DuPont model** helps us analyze the profitability of a business and demonstrates that a variety of strategies can result in high levels of profitability. The model follows:



$$\frac{\text{Net Income}}{\text{Average Stockholders' Equity}} = \frac{\text{Net Income}}{\text{Net Sales}} \times \frac{\text{Net Sales}}{\text{Average Total Assets}} \times \frac{\text{Average Total Assets}}{\text{Average Stockholders' Equity}}$$

A key insight provided by the DuPont model is that companies can be profitable by achieving high profit margins or a rapid turnover of assets (or a combination of both). Businesses can earn a high rate of return by following different strategies. These are two fundamental strategies:

1. **Product differentiation.** Under this strategy, companies offer products with unique benefits, such as high quality or unusual style or features. These unique benefits allow a company to charge higher prices. In general, higher prices yield higher profit margins, which lead to higher returns on equity (as shown in the DuPont model).
2. **Cost differentiation.** Under this strategy, companies attempt to operate more efficiently than their competitors, which permits them to offer lower prices to attract customers. The efficient use of resources is captured in the asset turnover ratio, and as the DuPont model illustrates, a higher asset turnover ratio leads to higher return on investment.

You can probably think of a number of companies that have followed one of these two basic strategies. Here are some examples:

Differentiation on Quality

Cars:
- Lexus
- Mercedes
- BMW

Retail Stores:
- Nordstrom
- Tiffany
- Saks

Differentiation on Cost

Cars:
- Ford Focus
- Chevrolet Aveo
- Kia Rio

Retail Stores:
- Kmart
- Walmart
- Dollar General

The best place to start financial analysis is with a solid understanding of a company's business strategy. To evaluate how well a company is doing, you must know what managers are trying to do. You can learn a great deal about a company's business strategy by reading its annual report, especially the letter from the president. It also is useful to read articles about the company in the business press.

The Home Depot's business strategy is described in its 10-K report as follows:

REAL WORLD EXCERPT
10-K Report

Operating Strategy

In fiscal 2011, we continued to execute on our strategy focused on the following key initiatives:

- *Customer Service.* To enhance customer service, we introduced new information technology and optimized certain elements of our supply chain to eliminate tasks and give associates more time with customers. We also sought to maintain competitive wages and incentive opportunities to attract, retain and motivate our associates.
- *Productivity and Efficiency.* Our productivity and efficiency initiative is advanced through building best-in-class competitive advantages in information technology and supply chain. We continued our focus on disciplined capital allocation, expense control and increasing shareholder returns, both through share repurchases and increased dividend payments.
- *Interconnected Retail.* As customers increasingly expect to be able to buy how, when and where they want, we believe that providing a seamless shopping experience across multiple channels will be a key enabler for future success. In fiscal 2011, we focused in particular on enhancements to our online presence.

This description of The Home Depot's strategy serves as a guide for our financial analysis. By understanding what management is trying to accomplish, we are better able to evaluate its progress in meeting its goals.

With these implications in mind, we can attach more meaning to the information contained in The Home Depot's financial statements.

FINANCIAL STATEMENT ANALYSIS

LEARNING OBJECTIVE 13-2

Discuss how analysts use financial statements.

Analyzing financial data without a basis for comparison is impossible. For example, would you be impressed with a company that earned $1 million last year? You are probably thinking, "It depends." A $1 million profit might be very good for a company that lost money the year before but not good for a company that made $500 million the preceding year. It might be good for a small company but not for a very large company. And it might be considered good if all the other companies in the industry lost money the same year but not good if they all earned much larger profits.

As you can see from this simple example, financial results cannot be evaluated in isolation. To properly analyze the information reported in financial statements, you must develop appropriate comparisons. The task of finding appropriate benchmarks requires judgment and is not always easy. Financial analysis is a sophisticated skill, not a mechanical process.

There are two methods for making financial comparisons, times series analysis and comparisons with similar companies.

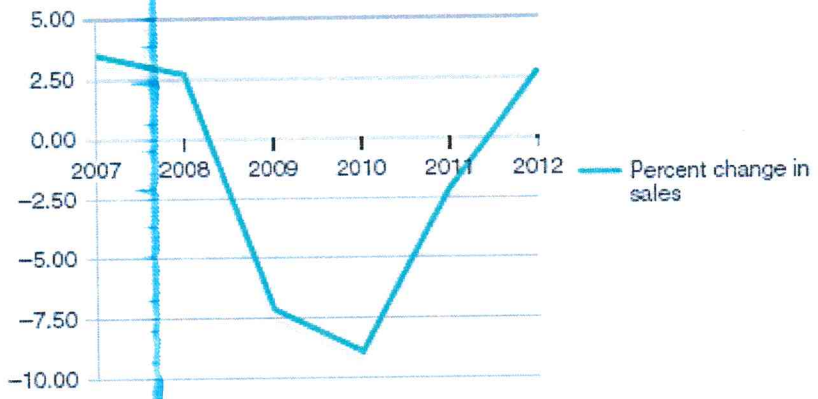
1. **Time series analysis.** In this type of analysis, information on a single company is compared over time. For example, a key measure of performance for most companies is the change in sales volume each year. The time series chart on the next page shows that The Home Depot's sales have been volatile over the past few years. Analysts would want to

examine this trend. The notes to the financial statements help us understand the improvement in sales in the current year:

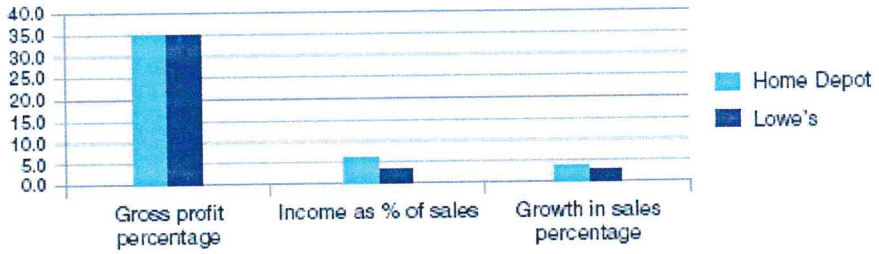
> The positive comparable store sales for the fiscal year reflect a number of factors including the execution of our key initiatives, economic growth and favorable weather conditions. We experienced positive comparable store sales in 12 of our 14 departments. The increase in comparable store sales also reflects a 2.6% increase in our comparable store average ticket and an 0.8% increase in our comparable store customer transactions.

REAL WORLD EXCERPT

In the current environment, The Home Depot is experiencing more customers in its stores and those customers are spending more money on their average purchase. Notice that our understanding of the reported numbers is directly tied to understanding The Home Depot's business strategy.



2. **Comparison with similar companies.** We have seen that financial results are often affected by industry and economy-wide factors. By comparing a company with another one in the same line of business, an analyst can gain better insight into its performance. The comparison of various measures for The Home Depot and Lowe's (in the following graph) shows similar results, suggesting that both companies are being affected by industry factors. The gross profit percentage is essentially the same for both companies but income as a percentage of sales is significantly higher for The Home Depot, indicating more efficient business operations. Also growth in sales is stronger for The Home Depot. This comparison suggests that The Home Depot has been successful in implementing its business strategy.



Finding comparable companies is often very difficult. Fortune Brands, for example, is a well-known company that each year sells more than $9 billion worth of distilled spirits, home improvement products, office products, and golf equipment. No other company sells exactly that group of products. Care must be exercised in selecting comparable companies from the same basic industry. Days Inn, La Quinta, Hilton, Four Seasons, Marriott, and Mirage Resorts are all well-known companies in the hotel industry, but not all could be considered comparable companies for purposes of financial analysis. These hotels offer different levels of quality and appeal to different types of customers.

The federal government has developed the North American Industry Classification System (NAICS) for use in reporting economic data. The system assigns a specific industry code to each corporation based on its business operations. Analysts often use these six-digit codes to identify companies that have similar business operations. In addition, financial information services such as Robert Morris Associates provide averages for many common accounting ratios for various industries defined by the industrial classification codes. Because of the diversity of companies included in each industry classification, however, these data should be used with great care. For this reason, some analysts prefer to compare two companies that are very similar instead of using industry-wide comparisons.

RATIO AND PERCENTAGE ANALYSIS

RATIO (PERCENTAGE) ANALYSIS is an analytical tool that measures the proportional relationship between two financial statement amounts.

LEARNING OBJECTIVE 13-3

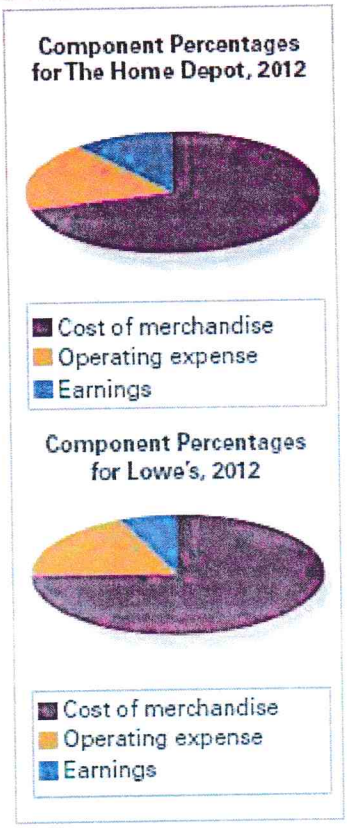
Compute and interpret component percentages.

All financial analysts use **ratio analysis** or **percentage analysis** when they review companies. A ratio or percentage expresses the proportionate relationship between two different amounts, allowing for easy comparisons. Assessing a company's profitability is difficult if you know only that it earned a net income of $500,000. Comparing income to other numbers, such as stockholders' equity, provides additional insights. If stockholders' equity is $5 million, for example, then the relationship of earnings to investment is $500,000 ÷ $5,000,000 = 10%. This measure indicates a different level of performance than would be the case if stockholders' equity were $250 million. Ratio analysis helps decision makers to identify significant relationships and make meaningful comparisons between companies.

Ratios may be computed using amounts in one statement, such as the income statement, or in two different statements, such as the income statement and the balance sheet. In addition, amounts on a single statement may be expressed as a percentage of a base amount.

Component Percentages

COMPONENT PERCENTAGES express each item on a particular financial statement as a percentage of a single base amount.



Analysts often compute **component percentages,** which express each item on a financial statement as a percentage of a single base amount (the ratio's denominator). To compute component percentages for the income statement, the base amount is net sales revenue. Each expense is expressed as a percentage of net sales revenue. On the balance sheet, the base amount is total assets; each balance sheet account is divided by total assets.

Exhibit 13.2 shows a component percentage analysis for The Home Depot's income statement (see the consolidated statements of earnings in Exhibit 13.1). If you simply reviewed the dollar amounts on the income statement, you might miss important insights. For example, selling, general, and administrative expense increased by $179 million between 2011 and 2012. This increase might seem to reflect a decline in operating efficiency until it is compared with sales productivity. A component percentage analysis provides an important insight: This expense category decreased as a percent of sales during that period. In other words, The Home Depot has done a good job of keeping selling, general, and administrative expense in line with its sales activity.

The component analysis (in Exhibit 13.2) helps to highlight several additional issues for The Home Depot, such as these:

1. Earnings increased between 2010 and 2012, both in terms of dollars and percent of sales.
2. Some of the percentage changes may seem small, but they each show improved efficiency, a key part of The Home Depot strategy.

Many analysts use graphics software in their study of financial results. Graphic representation is especially useful when communicating findings during meetings or in printed form. The charts in the margin summarize key 2012 data from Exhibit 13.2, along with comparable data from Lowe's, a key competitor.

In addition to component percentages, analysts use ratios to compare related items from the financial statements. Of the many ratios that can be computed from a single set of financial statements, analysts use only those that can be helpful in a given situation. Comparing cost of goods sold to property, plant, and equipment is never useful because these items have no natural relationship. Instead, an analyst will often compute certain widely used ratios and then decide which additional ratios could be relevant to a particular decision. Research and development costs as a percentage of sales is not a commonly used ratio, for example, but it is useful when analyzing companies that depend on new products, such as drug or computer firms.

EXHIBIT 13.2

Component Percentages for The Home Depot

Income Statement	COMPONENT PERCENTAGES* 2012	2011	2010
Net sales	100.0%	100.0%	100.0%
Cost of sales	65.5	65.7	66.1
Gross profit	34.5	34.3	33.9
Operating expenses			
Selling, general, and administrative	22.8	23.3	24.0
Depreciation and amortization	2.2	2.4	2.6
Total operating expenses	25.0	25.7	26.6
Operating income	9.5	8.6	7.3
Interest and investment income	0.0	0.0	0.0
Interest expense and other	0.9	0.8	1.3
Interest, net	0.9	0.8	1.3
Earnings, before taxes	8.6	7.8	6.0
Income taxes	3.1	2.8	2.0
Earnings from discontinued operations	0.0	0.0	0.0
Net earnings	5.5	4.9	4.0

**Numbers are rounded.*

When you compute ratios, remember a basic fact about financial statements: Balance sheet amounts relate to a moment in time while income statement amounts relate to an entire period. In comparing an income statement amount to a balance sheet amount, you should express the balance sheet as an average of the beginning and ending balances. In practice, many analysts simply use the ending balance sheet amount, an approach that is appropriate only if no significant changes have occurred in the balance sheet amounts. For consistency, we always use average amounts.

Financial statement analysis is a judgmental process; not all ratios are helpful in a given situation. We will discuss several ratios that are appropriate to most situations. They can be grouped into the categories shown in Exhibit 13.3.

Tests of Profitability

LEARNING OBJECTIVE 13-4

Compute and interpret profitability ratios.

TESTS OF PROFITABILITY are ratios that compare income with one or more primary activities.

Profitability is a primary measure of the overall success of a company. Indeed, it is necessary for a company's survival. Several **tests of profitability** focus on measuring the adequacy of income by comparing it to other items reported on the financial statements. Return on equity is a widely used measure of profitability.

1. Return on Equity (ROE)

Return on equity relates income earned to the investment made by the owners. This ratio reflects the simple fact that investors expect to earn more money if they invest more money. Two investments that offer a return of $10,000 are not comparable if one requires a $100,000 investment and the other requires a $250,000 investment. The return on equity ratio is computed as follows:[1]

EXHIBIT 13.3

Widely Used Accounting Ratios

Ratio	Basic Computation
Tests of Profitability	
1. Return on equity (ROE)	$\frac{\text{Net Income}}{\text{Average Stockholders' Equity}}$
2. Return on assets (ROA)	$\frac{\text{Net Income + Interest Expense (net of tax)}}{\text{Average Total Assets}}$
3. Financial leverage percentage	Return on Equity – Return on Assets
4. Earnings per share (EPS)	$\frac{\text{Net Income}}{\text{Average Number of Shares of Common Stock Outstanding}}$
5. Quality of income	$\frac{\text{Cash Flows from Operating Activities}}{\text{Net Income}}$
6. Profit margin	$\frac{\text{Net Income}}{\text{Net Sales Revenue}}$
7. Fixed asset turnover ratio	$\frac{\text{Net Sales Revenue}}{\text{Average Net Fixed Assets}}$
Tests of Liquidity	
8. Cash ratio	$\frac{\text{Cash + Cash Equivalents}}{\text{Current Liabilities}}$
9. Current ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
10. Quick ratio	$\frac{\text{Quick Assets}}{\text{Current Liabilities}}$
11. Receivable turnover ratio	$\frac{\text{Net Credit Sales}}{\text{Average Net Receivables}}$
12. Inventory turnover ratio	$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$
Tests of Solvency	
13. Times interest earned ratio	$\frac{\text{Net Income + Interest Expense + Income Tax Expense}}{\text{Interest Expense}}$
14. Cash coverage ratio	$\frac{\text{Cash Flows from Operating Activities (before interest and taxes paid)}}{\text{Interest Paid}}$
15. Debt-to-equity ratio	$\frac{\text{Total Liabilities}}{\text{Stockholders' Equity}}$
Market Tests	
16. Price/earnings (P/E) ratio	$\frac{\text{Market Price per Share}}{\text{Earnings per Share}}$
17. Dividend yield ratio	$\frac{\text{Dividends per Share}}{\text{Market Price per Share}}$

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Average Stockholders' Equity}}$$

$$\text{Home Depot 2012} = \frac{\$3,883}{\$18,394^*} = 21.1\%$$

*($17,898 + $18,889) ÷ 2 = $18,394

The Home Depot earned 21.1 percent on the owners' investment. Was that return good or bad? We can answer this question by comparing The Home Depot's return on equity with the ratio for a similar company. Return on equity for Lowe's was 11.1 percent in 2012. Clearly, The Home Depot produced a much better return than its strongest competitor.

We can gain additional insight by examining The Home Depot's ROE over time:

	2012	2011	2010
ROE	21.1%	18.0%	14.2%

This comparison indicates consistent improvement in The Home Depot's performance as measured by its ROE. As mentioned earlier, The Home Depot's performance was affected by stronger customer demand and effective implementation of an improved business strategy.

2. Return on Assets (ROA)

Another test of profitability compares income to the total assets (i.e., total investment) used to earn the income. Many analysts consider the return on assets ratio to be a better measure (compared to ROE) of management's ability to utilize assets effectively because it is not affected by the way in which the assets have been financed. For example, the return on equity could be very high for a company that has borrowed a large amount of debt compared to a company that has earned the same return on the same amount of assets but borrowed less money. Return on assets is computed as follows:

$$\text{Return on Assets} = \frac{\text{Net Income} + \text{Interest Expense (net of tax)}^{\dagger}}{\text{Average Total Assets}}$$

$$\text{Home Depot 2012} = \frac{\$3{,}883 + (\$606 \times 66\%)}{\$40{,}322^{\ddagger}} = 10.6\%$$

†This illustration assumes a corporate tax rate of 34 percent.
‡($40,518 + $40,125) ÷ 2 = $40,322.

Note that interest expense has been added to net income in the numerator of the ratio. Because the denominator of the ratio includes resources provided by both owners and creditors, the numerator must include the return that was available to each group. Interest expense is added back because it was previously deducted in the computation of net income. Note, too, that interest expense is measured net of income tax. This amount is used because it represents the net cost to the corporation for the funds provided by creditors.

EXHIBIT 13.4

Selected Financial Ratios for Hechinger

	YEARS BEFORE BANKRUPTCY				
	5	4	3	2	1
Current ratio	1.8	1.7	1.7	1.2	1.2
Debt-to-equity ratio	1.6	1.8	2.0	5.0	5.6

In other cases, analysis cannot uncover obscured problems. For example, consolidated statements include financial information about a parent company and its subsidiaries. The parent company could have a high current ratio and the subsidiary a low one, but when their statements are consolidated, their current ratios are in effect averaged and can fall within an acceptable range. The fact that the subsidiary could have a serious liquidity problem is obscured.

Despite limitations, ratio analysis is a useful analytical tool. For instance, financial ratios are effective for predicting bankruptcy. Exhibit 13.4 presents the current and debt-to-equity ratios for Hechinger, a former competitor of The Home Depot, for the five years before its recent bankruptcy. Notice the progressive deterioration of these ratios. Analysts who studied these ratios probably were not surprised when Hechinger filed for bankruptcy.

Financial statements provide information to all investors, both sophisticated and unsophisticated. However, users who understand basic accounting principles and terminology are able to more effectively analyze the information contained in financial statements. For example, some unsophisticated users who do not understand the cost principle believe that assets are reported on the balance sheet at their fair market value. Interpreting accounting numbers correctly without an understanding of the concepts that were used to develop them is impossible.

In analyzing different companies, you will find that they rarely use exactly the same accounting policies. Comparisons among companies are appropriate only if the analyst who is making them understands the impact of different accounting alternatives. For example, one company may use conservative accounting alternatives such as accelerated depreciation and LIFO while another may use income-maximizing alternatives such as straight-line depreciation and FIFO. Analysts who do not understand the different effects of these accounting methods could misinterpret financial results. Perhaps the most important first step in analyzing financial statements is a review of the company's accounting policies, which are disclosed in a note to the statements.

Other Financial Information

The ratios we have discussed are useful for most analytical purposes. Because each company is different, however, you must exercise professional judgment when you conduct a financial analysis. To illustrate, let's look at some special factors that could affect our analysis of The Home Depot.

1. **Rapid growth.** Growth in total sales volume does not always indicate that a company is successful. Sales volume from new stores may obscure the fact that existing stores are not meeting customer needs and are experiencing declines in sales. The family pizza chain Chuck-E-Cheese appeared to be a success when it reported rapid growth in total sales revenue by opening new restaurants. Unfortunately, the novelty of the new Chuck-E-Cheese restaurants proved to be short-lived, and their sales volume fell quickly. Because its older restaurants were unprofitable, Chuck-E-Cheese was forced to reorganize. In contrast, The Home Depot's annual report shows that the company's stores posted sales increases ranging from 3 percent to 15 percent in each of the previous 10 years. Clearly, The Home Depot can generate sales increases from both new and existing stores.
2. **Uneconomical expansion.** Some growth-oriented companies will open stores in less desirable locations if good locations cannot be found. These poor locations can cause a company's average productivity to

decline. One measure of productivity in the retail industry is

sales volume per square foot of selling space. For The Home Depot, productivity results are improving after several years of significant declines:

Year	Sales per Square Foot
2012	$299
2011	289
2010	279
2009	298
2008	332
2007	357
2006	375

Sales per square foot reached a peak of over $400 in the 1990s. Management explains the slowdown in growth is a direct result of its strategy:

REAL WORLD EXCERPT
Annual Report

> We strategically open stores near market areas served by existing stores ("cannibalize") to gain incremental sales and increase market penetration. New stores cannibalized approximately 5% of our existing stores and reduced sales volume by approximately 1%.

As the note indicates, The Home Depot is willing to accept lower productivity at certain existing stores in order to achieve high sales levels in a region. Despite the explanation, the rapid decline in sales per square foot represents a significant operating challenge for The Home Depot.

3. **Subjective factors.** Remember that vital information about a company is not contained in the annual report. The best way to evaluate The Home Depot's strategy of being a price leader, for instance, is to visit its stores and those of competitors. An analyst who studied The Home Depot for Smith Barney did exactly that:

REAL WORLD EXCERPT
Smith Barney
Research Report

> On July 15, we surveyed the Boca Raton, Florida, market. The Home Depot store is about two years old and was particularly impressive with respect to its in-stock position, customer service, and total store presentation. We were able to compare Home Depot's pricing on 20 sample items. Our price analysis revealed that Home Depot is the price leader in the market by an average of 11 percent below the average total price of our 20-item market basket. Given The Home Depot's low cost structure, we believe that it will remain the price leader in this important market.

As these examples illustrate, no single approach can be used to analyze all companies. Furthermore, an effective analyst will look beyond the information contained in an annual report.

A QUESTION OF ETHICS

Financial statements are an important source of information for investors. The announcement of unexpected information can cause a substantial movement in the price of a company's stock.

A company's accountants often are aware of important financial information before it is made available to the public. This is called *insider information.* Some people might be tempted to buy or sell stock based on insider information, but to do so is a serious criminal offense. The Securities and

Exchange Commission has brought a number of cases against individuals who traded on insider information. Their convictions resulted in large fines and time served in jail.

In some cases, determining whether something is insider information is difficult. For example, an individual could overhear a comment made in the company elevator by two executives. A well-respected Wall Street investment banker offers good advice on dealing with such situations: "If you are not sure if something is right or wrong, apply the newspaper headline test. Ask yourself how you would feel to have your family and friends read about what you had done in the newspaper." Interestingly, many people who have spent time in jail and lost small fortunes in fines because of insider trading say that the most difficult part of the process was telling their families.

To uphold the highest ethical standard, many public accounting firms have adopted rules that prevent their staff from investing in companies that the firms audit. Such rules are designed to ensure that a company's auditors will not be tempted to engage in insider trading.

Information in an Efficient Market

EFFICIENT MARKETS are securities markets in which prices fully reflect available information.

Considerable research has been performed on the way in which stock markets react to new information. Much of this evidence supports the view that the markets react very quickly to new information in an unbiased manner (that is, the market does not systematically overreact or underreact to new information). A market that reacts to information in this manner is called an **efficient market.** In an efficient market, the price of a security fully reflects all available information.

It is not surprising that the stock markets react quickly to new information. Many professional investors manage stock portfolios valued in the hundreds of millions of dollars. These investors have a financial incentive to discover new information about a company and to trade quickly based on that information.

The research on efficient markets has important implications for financial analysts. It probably is not beneficial to study old information (say an annual report that was released six months earlier) in an effort to identify an undervalued stock. In an efficient market, the price of a stock reflects all information contained in the annual report shortly after its release. In an efficient market, moreover, a company cannot manipulate the price of its stock by manipulating its accounting policy. The market should be able to differentiate between a company whose earnings are increasing due to improved productivity and one whose earnings have increased simply because of changes in accounting policies.

13-1. Explain how a company's business strategy affects financial analysis. p. 649

In simple terms, a business strategy establishes the objectives a business is trying to achieve. Performance is best evaluated by comparing the financial results to the objectives that the business was working to achieve. In other words, an understanding of a company's strategy provides the context for conducting financial statement analysis.

13-2. Discuss how analysts use financial statements. p. 650

Analysts use financial statements to understand present conditions and past performance as well as to predict future performance. Financial statements provide important information to help users understand and evaluate corporate strategy. The data reported on statements can be used for either time series analysis (evaluating a single company over time) or in comparison with similar companies at a single point in time. Most analysts compute component percentages and ratios when using statements.

13-3. Compute and interpret component percentages. p. 652

To compute component percentages for the income statement, the base amount used is net sales revenue. Each expense is expressed as a percentage of net sales revenue. On the balance sheet, the base amount is total assets; each balance sheet account is divided by total assets. Component percentages are evaluated by comparing them over time for a single company or by comparing them with percentages for similar companies.

13-4. Compute and interpret profitability ratios. p. 653

Several tests of profitability focus on measuring the adequacy of income by comparing it to other items reported on the financial statements. Exhibit 13.3 lists these ratios and shows how to compute them. Profitability ratios are evaluated by comparing them over time for a single company or by comparing them with ratios for similar companies.

13-5. Compute and interpret liquidity ratios. p. 659

Tests of liquidity measure a company's ability to meet its currently maturing debt. Exhibit 13.3 lists these ratios and shows how to compute them. Liquidity ratios are evaluated by comparing them over time for a single company or by comparing them with ratios for similar companies.

13-6. Compute and interpret solvency ratios. p. 663

Solvency ratios measure a company's ability to meet its long-term obligations. Exhibit 13.3 lists these ratios and shows how to compute them. Solvency ratios are evaluated by comparing them over time for a single company or by comparing them with ratios for similar companies.

13-7. Compute and interpret market test ratios. p. 665

Market test ratios relate the current price of a stock to the return that accrues to investors. Exhibit 13.3 lists these ratios and shows how to compute them. Market test ratios are evaluated by comparing them over time for a single company or by comparing them with ratios for similar companies.

Balance Sheet

Ratios are not reported on the balance sheet, but analysts use balance sheet information to compute many ratios. Most analysts use an average of the beginning and ending amounts for balance sheet accounts when comparing the account to an income statement account.

Income Statement

Earnings per share is the only ratio that is required to be reported on the financial statements. It is usually reported at the bottom of the income statement.

Statement of Cash Flows

Ratios are not reported on this statement, but some analysts use amounts from this statement to compute some ratios.

Statement of Stockholders' Equity

Ratios are not reported on this statement, but analysts use amounts from this statement to compute some ratios.

Notes

Under Summary of Significant Accounting Policies
This note has no information pertaining directly to ratios, but it is important to understand accounting differences if you are comparing two companies.

Under a Separate Note
Most companies include a 10-year financial summary as a separate note. These summaries include data for significant accounts, some accounting ratios, and nonaccounting information.