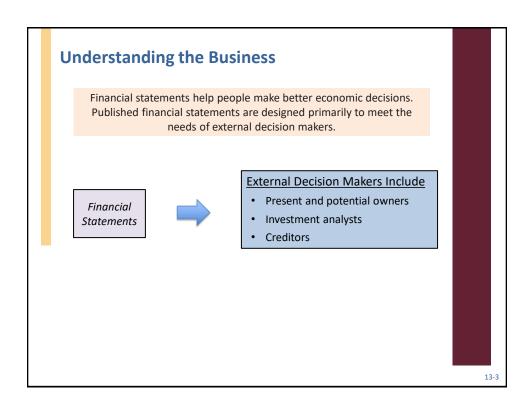
Chapter 13

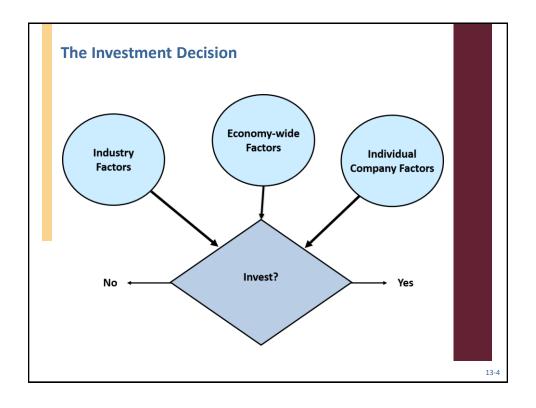
Analyzing Financial Statements

Learning Objectives

After studying this chapter, you should be able to:

- 13-1 Explain how a company's business strategy affects financial statement analysis.
- 13-2 Discuss ways to analyze financial statements.
- 13-3 Compute and interpret component percentages.
- 13-4 Compute and interpret profitability ratios.
- 13-5 Compute and interpret asset turnover ratios.
- 13-6 Compute and interpret liquidity ratios.
- 13-7 Compute and interpret solvency ratios.
- 13-8 Compute and interpret market ratios.





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

13-5

Understanding a Company's Strategy (1 of 2) While financial statements reflect transactions, each of those transactions is the result of a company's operating decisions as it implements its business strategy. Business Strategy Decisions Transactions Financial Statements

Understanding a Company's Strategy (2 of 2)

Businesses can earn a high rate of return by following different strategies.

Product Differentiation and **Cost Differentiation** are two fundamental strategies.

Product Differentiation

Cost Differentiation

Cars: Tesla Cars: Kia

Airlines:

Airlines:

Singapore Airlines

Southwest

Retail Stores:

Retail Stores:

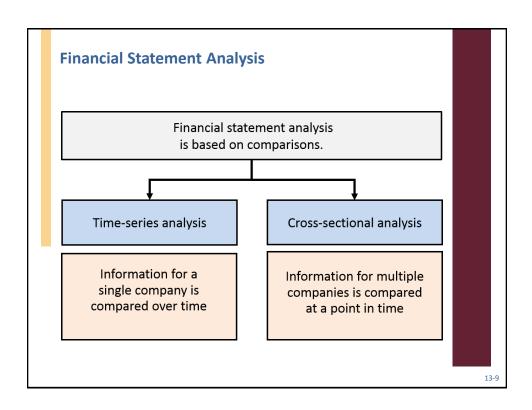
Nordstrom

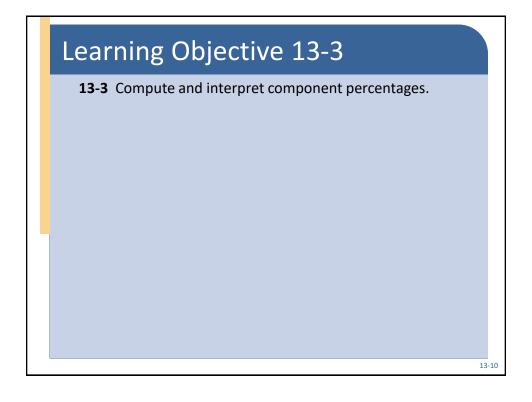
Walmart

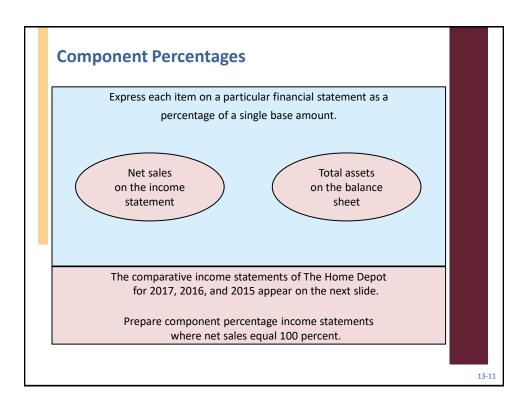
13-7

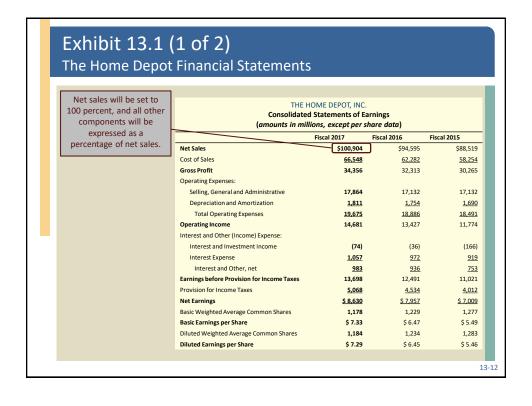
Learning Objective 13-2

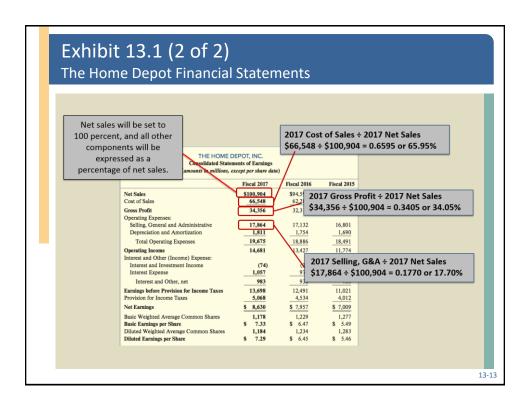
13-2 Discuss ways to analyze financial statements.





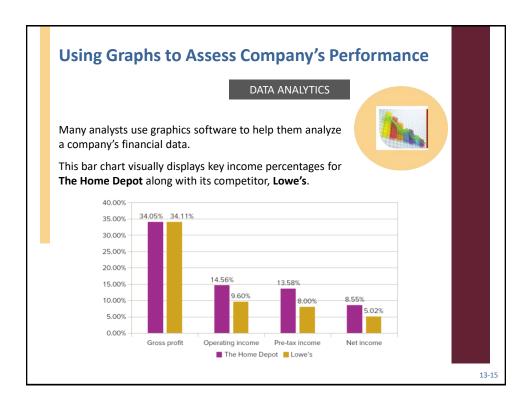






	Home Depot		
	СОМР	ONENT PERC	ENTAGES
Income Statement	Fiscal 2017	Fiscal 2016	Fiscal 201
Net Sales	100.00%	100.00%	100.009
Cost of Sales	65.95	65.84	<u>65.8</u>
Gross Profit	34.05	34.16	34.1
Operating Expenses:			
Selling, General, and Administrative	17.70	18.11	18.9
Depreciation and Amortization	<u>1.79</u>	<u>1.85</u>	<u>1.9</u>
Total Operating Expenses	<u>19.49</u>	<u>19.96</u>	20.8
Operating Income	14.56	14.20	13.3
Interest and Other (Income) Expense:			
Interest and Investment Income	(0.07)	(0.04)	(0.19
Interest Expense	<u>1.05</u>	<u>1.03</u>	<u>1.0</u>
Interest and Other, Net	0.98	0.99	0.8
Earnings, before Provision for Income Taxes	13.58	13.21	12.4
Provision for Income Taxes	<u>5.03</u>	<u>4.80</u>	<u>4.5</u>
Net Earnings	8.55%	8.41%	7.929

7



Ratio Analysis

Ratio analysis helps decision makers identify significant relationships and make meaningful comparisons.

Financial statement analysis involves a lot of judgment.

The more clearly you define the questions you want answered, the easier it is to select the most appropriate ratios to compute.

The 2017 and 2016 balance sheets for The Home Depot are presented on the next slides. We will be referring to these financial statements throughout the ratio analyses.

		DEPOT, INC. Balance Sheets	
	(amounts in millions, ex		
		End of Fiscal 2017	End of Fiscal 201
As	sets		
Cu	irrent Assets:		
	Cash and Cash Equivalents	\$ 3,595	\$ 2,53
	Receivables, net	1,952	2,02
	Merchandise Inventories	12,748	12,54
	Other Current Assets	<u>638</u>	<u>60</u>
	Total Current Assets	<u>18,933</u>	17,72
Ne	et Property and Equipment	22,075	21,91
Go	oodwill	2,275	2,09
Ot	ther Assets	<u>1,246</u>	1,23
	Total Assets	\$44,529	\$42,96

he Home Depot Financial Stater	ments (2 of 2)	
The Frontie Deport I marietal States	1101103 (2 31 2)	
	End of Fiscal 2017	End of Fiscal 201
Liabilities and Stockholders' Equity		
Current Liabilities:		
Short-Term Debt	\$ 1,559	\$ 7:
Accounts Payable	7,244	7,0
Accrued Salaries and Related Expenses	1,640	1,4
Sales Taxes Payable	520	5
Deferred Revenue	1,805	1,6
Income Taxes Payable	54	
Current Installments of Long-Term Debt	1,202	5
Other Accrued Expenses	<u>2,170</u>	2,1
Total Current Liabilities	<u>16,194</u>	14,1
Long-Term Debt, excluding current installments	24,267	22,3
Deferred Income Taxes	440	2
Other Long-Term Liabilities	<u>2,174</u>	1,8
Total Liabilities	<u>43,075</u>	38,6
Stockholders' Equity		
Common Stock, par value \$0.05; authorized: 10,000 shares; issued: 1,780 shares at January 28, 2018, and 1,776 at January 29, 2017	89	
Paid-in Capital	10,192	9,7
Retained Earnings	39,935	35,5
Accumulated Other Comprehensive Loss	(566)	(86
Treasury Stock, at cost, 622 shares at January 28, 2018, and 573 shares at January 29, 2017	(48,196)	(40,19
Total Stockholders' Equity	<u>1,454</u>	<u>4,3</u>
Total Liabilities and Stockholders' Equity	\$44,529	\$42,9

13-4 Compute and interpret profitability ratios.

13-19

Profitability Ratios

Profitability ratios focus on net income and how it compares to other amounts reported on the financial statements.

Profitability Ratios

1. Return on equity (ROE)

Net Income

Average Total Stockholders' Equity Net Income

2. Return on assets (ROA)

Average Total Assets

3. Gross profit percentage

Gross Profit Net Sales Revenue

4. Net profit margin

Net Income

Net Sales Revenue

5. Earnings per share (EPS)

6. Quality of Income

Net Income Weighted Average Number of Common Shares Outstanding

Cash Flows from Operating Activities

Net Income

We will be referring to the financial statements of The Home Depot throughout our discussion of profitability ratios.

Return on Equity (ROE)

Return on Equity relates income earned to the investment made by the owners. Investors expect to earn a return on the money they invest.

The ROE ratio for The Home Depot for fiscal 2017 is computed as follows:

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

The Home Depot 2017 =
$$\frac{\$8,630}{\$2,894*}$$
 = 298.25%

$$\frac{*(\$4,333+\$1,454)}{2} = \$2,894$$

	2017	2016	2015
ROE	298.25%	149.44%	89.64%

On average, for every \$1.00 equity investors contributed to The Home Depot, the company earned \$2.98 in fiscal 2017.

13-21

Return on Assets (ROA)

This ratio compares income to the total assets used to generate the income .

$$\frac{\text{Return on}}{\text{Assets}} = \frac{\text{Net Income}}{\text{Average Total Assets}}$$

The Home Depot 2017 =
$$\frac{\$8,630}{\$43,748*}$$
 = 19.73%

$$\frac{*(\$42,966+\$44,529)}{2} = \$43,748$$

On average, for every \$1.00 of assets reported on The Home Depot's balance sheet, the company earned just under 20 cents in fiscal 2017.

Gross Profit Percentage

The gross profit percentage (also referred to as the gross profit margin) reflects gross profit as a percent of sales.

If not shown separately on a company's income statement, gross profit is computed by subtracting cost of sales from net sales.

$$\frac{\text{Gross Profit}}{\text{Percentage}} = \frac{\text{Gross Profit}}{\text{Net Sales Revenue}}$$

The Home Depot 2017 =
$$\frac{1334,356}{100,904}$$
 = 34.05%

After subtracting the direct costs associated with selling products, The Home Depot had approximately 34 cents of each dollar of sales remaining to cover other expenses.

13-23

Net Profit Margin

This ratio reflects net income as a percentage of sales.

$$\frac{\text{Net Profit}}{\text{Margin}} = \frac{\text{Net Income}}{\text{Net Sales Revenue}}$$

The Home Depot 2017 =
$$\frac{138,630}{$100,904}$$
 = 8.55%

For fiscal 2017, each dollar of The Home Depot's sales generated over 8 cents of profit. For each dollar of sales, The Home Depot is subtracting just under 92 cents in expenses.

Earnings per Share (EPS)

The earnings per share ratio is a measure of return on investment that is based on the number of common shares outstanding.

 $\frac{\text{Net Income}}{\text{Weighted Average Number of Shares Outstanding}}$

The Home Depot 2017 =
$$\frac{188,630}{1178}$$
 = \$7.33

Average number of shares outstanding is reported on the bottom of the income statement

Earnings per share is probably the single most widely reported financial ratio, and it is the only ratio required by GAAP

Deferred Income Taxes

Net Cash Provided by Operating Activities

13-25

Quality of Income

Quality of Income = Cash Flows from Operating Activities
Net Income

CASH FLOWS FROM OPERATING ACTIVITIES:

The Home Depot 2017:

 $\frac{\$12,031}{\$8,630} = \$39$

A ratio higher than 1 indicates high-quality income because each dollar of income is supported by one or more dollars of cash flows.

\$8,630 Reconciliation of Net Earnings to Net Cash Provided by Operating Activities: Depreciation and Amortization 2,062 Stock-Based Compensation Expense 273 Changes in Assets and Liabilities, net of the effects of acquisitions: Receivables, net 139 Merchandise Inventories (84) Other Current Assets (10) Accounts Payable and Accrued Expenses 352 Deferred Revenue 128 Income Taxes Payable 29

13-26

92

420

12,031

13-5 Compute and interpret asset turnover ratios.

13-27

Asset Turnover Ratios

Profitability ratios focus on net income and how it compares to other amounts reported on the financial statements.

Asset Turnover Ratios

7. Total asset turnover ratio

Net Sales Revenue
Average Total Assets

8. Fixed asset turnover ratio

Net Sales Revenue

Average Net Fixed Assets

9. Receivable turnover ratio

Net Credit Sales

Average Net Receivables

Cost of Goods Sold

We will be referring to the financial statements of The Home Depot throughout our discussion of asset turnover ratios.

Total Asset Turnover Ratio

This ratio captures how well a company uses its assets to generate revenue.

$$\frac{\text{Total Asset}}{\text{Turnover}} = \frac{\text{Net Sales Revenue}}{\text{Average Total Assets}}$$

The Home Depot 2017 =
$$\frac{$100,904}{$43,748*}$$
 = 2.31

$$\frac{*(\$42,966+\$44,529)}{2} = \$43,748$$

	2017	2016	2015
Total Asset Turnover	2.31	2.23	2.27

The Home Depot has improved its total asset turnover ratio from fiscal 2015 to fiscal 2017. On average, every dollar of assets on The Home Depot's balance sheet generates \$2.31 of revenue.

13-29

Fixed Asset Turnover Ratio

This ratio measures a company's ability to generate sales given an investment in fixed assets.

The Home Depot 2017 =
$$\frac{\$100,904}{\$21,995*}$$
 = 4.59

$$\frac{*(\$21,914+\$22,075)}{2} = \$21,995$$

For each dollar The Home Depot invested in property, plant, and equipment, the company was able to generate \$4.59 in sales revenue.

Receivable Turnover Ratio

This ratio measures how quickly a company collects its accounts receivable.

$$\frac{\text{Receivable Turnover}}{\text{Ratio}} = \frac{\text{Net Credit Sales}^1}{\text{Average Net Receivables}}$$

The Home Depot 2017 =
$$\frac{\$100,904}{\$1,991*}$$
 = 50.69 times

$$\frac{*(\$2,029+\$1,952)}{2} = \$1,991$$

A high receivable turnover ratio suggests that a company collects its accounts receivable many times during a year. On average, The Home Depot collects its accounts receivable over 50 times a year.

¹If credit sales are not reported separately, use total net sales as an approximation

13-31

Receivable Turnover Ratio – Converted to Days

The receivable turnover ratio often is converted to reflect the number of days, on average, it takes a company to collect its receivables.

Average Days to Collect Receivables =
$$\frac{\text{Days in a Year}}{\text{Receivable Turnover Ratio}}$$

The Home Depot 2017 =
$$\frac{365}{50.69}$$
 = 7.20 days

The Home Depot's average days to collect receivables ratio implies that it takes the company an average of just over seven days to collect its accounts receivable.

Many of The Home Depot customers pay with a credit card, which is the equivalent of a cash sale. As a result, net sales does not approximate net <u>credit</u> sales so this ratio analysis is less meaningful.

Inventory Turnover Ratio

This ratio measures how quickly the company sells its inventory.

$$\frac{Inventory}{Turnover\ Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

The Home Depot 2017 =
$$\frac{$66,548}{$12,649*}$$
 = 5.26 times

$$\frac{*(\$12,549 + \$12,748)}{2} = \$12,649$$

An increase in this ratio is usually favorable. However, if the ratio is too high, it may be an indication that sales were lost because desired items were not in stock. A company must balance the cost of holding inventory with the potential cost of losing a sale. On average, The Home Depot's inventory was acquired and sold to customers just over 5 times during the year.

13-33

Inventory Turnover Ratio – Converted to Days

The inventory turnover ratio often is converted to reflect the number of days, on average, it takes a company to sell its inventory.

$$\frac{\text{Average Days to Sell}}{\text{Inventory}} = \frac{\text{Days in a Year}}{\text{Inventory Turnover Ratio}}$$

The Home Depot 2017 =
$$\frac{365}{5.26}$$
 = 69.39 days

The Home Depot's average days to sell inventory ratio implies that, on average, it takes the company just over sixty-nine days to sell its inventory.

Using Ratios to Analyze the Operating Cycle

The **operating cycle** is the time it takes for a company to pay cash to its suppliers, sell goods to its customers, and collect cash from its customers. Analysts are interested in the operating cycle because it helps them evaluate a company's cash needs and is a good indicator of operating efficiency.

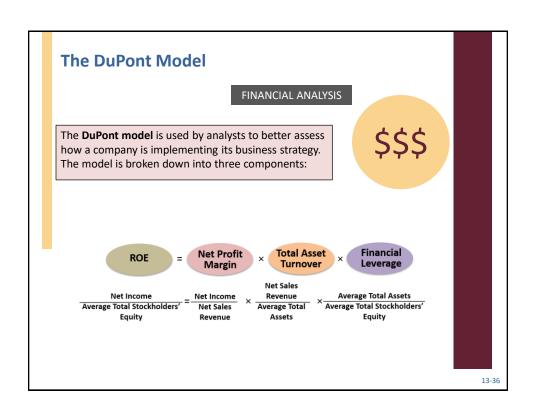
The operating cycle for most companies involves three distinct phases:

- 1) the acquisition of inventory
- 2) the sale of the inventory
- 3) the collection of cash from the customer.

Several ratios are helpful when evaluating a company's operating cycle:

Ratio*	Operating Activity		
Accounts payable turnover ratio	Purchase of inventory		
Inventory turnover ratio	Sale of inventory		
Receivable turnover ratio	Collection of cash from customers		

*We discussed the accounts payable turnover ratio in Chapter 9. The inventory turnover ratio and the receivable turnover ratio are discussed in this chapter.



13-6 Compute and interpret liquidity ratios.

13-37

Liquidity Ratios

Liquidity ratios measure a company's ability to meet its short-term obligations.

Liquidity Ratios

11. Current ratio

Current Assets
Current Liabilities

Cash & Cash Equivalents + Net Accounts Receivable

Quick ratio

+ Marketable Securities

Current Liabilities

Cash & Cash Equivalents

13. Cash ratio

Current Liabilities

We will be referring to the financial statements of The Home Depot throughout our discussion of liquidity ratios.

Current Ratio

This ratio measures the ability of the company to pay current debts as they become due.

$$\frac{\text{Current Assets}}{\text{Ratio}} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The Home Depot 2017 =
$$\frac{$18,933}{$16,194}$$
 = 1.17

A ratio greater than 1 implies that a company's current assets are sufficient to cover its current liabilities. If a company's current ratio is less than 1, analysts will want to understand how the company intends to meet its short-term obligations. At the end of fiscal 2017, The Home Depot had \$1.17 in current assets for each \$1.00 in current liabilities.

13-39

Quick Ratio

This ratio is a more stringent test of short-term liquidity than the current ratio.

$$\frac{\text{Quick}}{\text{Ratio}} = \frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

The Home Depot 2017 =
$$\frac{(\$3,595 + \$1,952 + \$0)}{\$16,194}$$
 = 0.34

Cash and Cash Equivalents	\$3,595
Net Accounts Receivable	1,952
Marketable Securities	-
Quick Assets	\$5,547

Quick assets are defined as cash and near-cash assets (net accounts receivable and marketable securities). Inventory and Prepaid expenses are omitted from quick assets. At the end of fiscal 2017, The Home Depot has 34 cents in cash and near-cash assets for every \$1.00 in current liabilities.

Cash Ratio

This ratio measures the adequacy of available cash.

$$\frac{Cash}{Ratio} = \frac{Cash + Cash \ Equivalents}{Current \ Liabilities}$$

The Home Depot 2017 =
$$\frac{\$3,595}{\$16,194}$$
 = 0.22

At the end of fiscal 2017, The Home Depot has 22 cents of cash for each \$1.00 of current liabilities.

13-41

Learning Objective 13-7

13-7 Compute and interpret solvency ratios.

Solvency Ratios

Solvency ratios measure a company's ability to meet its long-term obligations.

Solvency Ratios

14. Times interest earned ratio

Net Income + Interest Expense + Income Tax Expense
Interest Expense

15. Cash coverage ratio

Cash Flows from Operating Activities

Interest Paid
Total Liabilities

16. Debt-to-equity ratio

Total Stockholders' Equity

We will be referring to the financial statements of The Home Depot throughout our discussion of solvency ratios.

13-43

Times Interest Earned Ratio

This ratio compares the income available to pay interest in a period to a company's interest obligation for the same period.

This ratio indicates a margin of protection for creditors.

$$\frac{\text{Times Interest}}{\text{Earned}} = \frac{\frac{\text{Net}}{\text{Income}} + \frac{\text{Interest}}{\text{Expense}} + \frac{\text{Income Tax}}{\text{Expense}}}{\text{Interest Expense}}$$

The Home Depot 2017 =
$$\frac{\$8,630+?\ 1,057 \times \$5,068}{\$1,057} = 13.96 \text{ times}$$

A high ratio indicates a secure position for creditors. In fiscal 2017, The Home Depot generated \$13.96 in income for each \$1.00 of interest expense.

Cash Coverage Ratio

This ratio compares the cash from operations to the cash needed to make required interest payments.

$$\frac{\text{Cash}}{\text{Coverage Ratio}} = \frac{\text{Cash Flows from Operating Activities}}{\text{Interest Paid}}$$

The Home Depot 2017 =
$$\frac{$12,031}{$991}$$
 = 12.14 times

The Home Depot's cash coverage ratio shows that the company generated \$12.14 in cash for every \$1.00 of interest paid, which is strong coverage.

13-45

Debt-to-Equity Ratio

This ratio measures the amount of liabilities that exists for each \$1 invested by the owners.

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

The Home Depot 2017 =
$$\frac{$43,075}{$1,454}$$
 = 29.63

In fiscal 2017, for each \$1.00 of stockholders' equity, The Home Depot had \$29.63 of liabilities.

13-8 Compute and interpret market ratios.

13-47

Market Ratios

Market ratios relate the current price per share of a company's stock to the return that accrues to stockholders.

Analysts find these ratios helpful because they are based on the current value of an owner's investment in a company.

Market Ratios

17. Price/Earnings (P/E) ratio

Market Price per Share
Earnings per Share

18. Dividend yield ratio

Dividends per Share

Market Price per Share

We will be referring to the financial statements of The Home Depot throughout our discussion of market ratios.

Price/Earnings (P/E) Ratio

This ratio measures the relationship between the current market price of a company's stock and its earnings per share.

P/E Ratio 茂 Current Market Price per Share Earnings per Share

The Home Depot 2017 =
$$\frac{\$207.23*}{\$7.33}$$
 = 28.27

* At the end of fiscal 2017, The Home Depot's stock was trading at \$207.23 per share.

The P/E ratio reflects the stock market's assessment of a company's future performance. A high ratio indicates that earnings are expected to grow rapidly. The P/E ratio for The Home Depot indicates that the market expects them to perform well in the future. This P/E ratio indicates that The Home Depot's stock was selling at a price that was just over 28 times its earnings per share.

13-49

Dividend Yield Ratio

This ratio reflects the return on investment solely due to the dividends a company pays.

$$\frac{\text{Dividend}}{\text{Yield Ratio}} = \frac{\text{Dividends per Share}}{\text{Market Price per Share}}$$

The Home Depot 2017 =
$$\frac{$3.56}{$207.23}$$
 = 1.72%

Investors are willing to accept low dividend yields if they expect that the price of a stock will increase while they own it. Stocks with high dividend yields often appeal to retired investors who need current income rather than future growth potential.

Interpreting Ratios and Other Analytical Considerations

Analysts must decide which ratios to use based on their decision objective.

Ratios can be interpreted only by comparing them to other ratios or a benchmark value.

Comparing ratios for two firms is appropriate only if the companies are comparable in terms of their industry, operations, and accounting policies.

Because ratios are based on the aggregation of information, they may obscure underlying factors that are of interest to the analyst.

A company's accounting policy choices will influence its ratios.

13-51

Other Financial Information

Understanding the broader economic environment in which a company operates is important when interpreting its ratios.

- · Rapid growth
- Uneconomical expansion
- Subjective factors

Insider Information QUESTION OF ETHICS Insider Information is when someone is aware of important financial information before it is made available to the public. Buying or selling stock based on insider To uphold ethical information is a serious standards, many public criminal offense that can accounting firms have result in time served in jail. adopted rules that prevent their staff from investing in companies Determining whether something is that they audit. insider information can be difficult. Not sure? Try the "newspaper headline test." How would it would feel to have your family and friends read about what you did in the newspaper? 13-53