cHAPTER 13

measuring and evaluating financial performance

# Student Learning Objectives and Related Assignment Materials

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| **Student Learning Objectives** | **Mini-Exercises** | **Exercises** | **Coached Problems** | **Problems (Groups  A & B)** | **Skills Development Cases** | **Continuing Case** |
| LO 13-1 Describe the purposes and uses of horizontal, vertical, and ratio analyses. |  |  |  |  | 3 |  |
| LO 13-2 Use horizontal (trend) analyses to recognize financial changes that unfold over time. | 1\*, 6\* | 1\*, 3\* | 1 | A1, B1 | 3, 7 |  |
| LO 13-3 Use vertical (common size) analyses to understand important relationships within financial statements. | 2\* | 1\*, 3\* | 3, 4 | A3, A4, B3, B4 | 3, 7 |  |
| LO 13-4 Calculate financial ratios to assess profitability, liquidity, and solvency. | 5, 6\*, 7, 8, 9, 10^, 11, 12 | 2, 4\*, 5, 6, 7, 8, 9, 10\*^, 11, 12, 13\*, 14 | 2, 5, 6 | A2, A5, A6, B1, B2, B5, B6 | 1, 3, 5, 6 | 1† |
| LO 13-5 Interpret the results of financial analyses. | 3, 4, 8, 11, 12 | 1\*, 2, 3\*, 4\*, 5, 7, 8, 9, 10\*^, 11, 12, 13\*, 14 | 1, 2, 3, 4, 5, 6, 7 | A1, A2, A3, A4, A5, A6, A7, B1, B2, B3, B4, B5, B6, B7 | 2, 3, 5, 6 | 1† |
| LO 13-6 Describe how analyses depend on key accounting decisions and concepts. | 13, 14 | 15 | 6 | A6, B6 | 3, 4, 6 |  |
| LO 13-S1 Describe how nonrecurring and other comprehensive income items are reported. |  |  |  |  |  |  |
| LO 13-S2 Describe significant differences between GAAP and IFRS. |  |  |  |  |  |  |

*(Table footnotes on next page.)*

# Student Learning Objectives and Related Assignment Materials, continued

\* Animated solution included in the PowerPoint Slides.

^ Particularly challenging; requires students to combine multiple concepts in order to advance to the next level of accounting knowledge.

† CC13-1 is a continuing case that builds on the story of Nicole’s Getaway Spa, introduced in earlier chapters. This case focuses on profitability, liquidity, and solvency ratios.

# Overview

This chapter pulls together financial statement analysis, accounting method choices, and accounting concepts, showing how a difficult economic environment is revealed in Lowe’s financial statements (and, where appropriate, in those of The Home Depot).

Students learn through a demonstration of horizontal, vertical, and ratio analyses that evaluate the company’s profitability, liquidity, and solvency.

Chapter supplements discuss nonrecurring and special items (A) and summarize key topics involving IFRS, referencing specific pages in each chapter where these topics are integrated (B).

# Synopsis of Chapter Revisions

* Updated focus company analyses with Lowe’s Companies
* Revised Exhibit 13.5 and related discussion to reflect changes made to all other chapters
* New Spotlight on Business Decisions to discuss impact of supply chain financing on current ratio
* Updated discussion to reflect FASB’s August 2014 going concern standards update
* Reviewed and updated all end-of-chapter material

# PowerPoint Slides

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| **Student Learning Objective** | **PowerPoint® Slides** |
| LO 13-1 Describe the purposes and uses of horizontal, vertical, and ratio analyses. | 13-2 through 13-4 |
| LO 13-2 Use horizontal (trend) analyses to recognize financial changes that unfold over time. | 13-5 through 13-7 |
| LO 13-3 Use vertical (common size) analyses to understand important relationships within financial statements. | 13-8 through 13-9 |
| LO 13-4 Calculate financial ratios to assess profitability, liquidity, and solvency. | 13-10 through 13-14 |
| LO 13-5 Interpret the results of financial analyses. | 13-15 through 13-26 |
| LO 13-6 Describe how analyses depend on key accounting decisions and concepts. | 13-27 through 13-31 |
| LO 13-S1 Describe how nonrecurring and other comprehensive income items are reported. | 13-32 through 13-36 |
| LO 13-S2 Describe significant differences between GAAP and IFRS. | 13-37 through 13-39 |

# PowerPoint Slides, continued

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| **Animated Builds and Animated Solutions** | **PowerPoint® Slides** |
| Mini-Exercise 13-1 | 13-41 through 13-42 |
| Mini-Exercise 13-2 | 13-43 |
| Mini-Exercise 13-6 | 13-44 |
| Exercise 13-1 | 13-45 through 13-47 |
| Exercise 13-3 | 13-48 through 13-50 |
| Exercise 13-4 | 13-51 through 13-55 |
| Exercise 13-10 | 13-56 through 13-57 |
| Exercise 13-13 | 13-58 through 13-59 |

# Chapter Summary

**LO 13-1 Describe the purposes and uses of horizontal, vertical, and ratio analyses.**

* Horizontal analyses (also called trend analyses) compare financial statement items to comparable amounts in prior periods with the goal of identifying sustained changes, or trends.
* Vertical analyses create common size financial statements that express each line of the income statement (or balance sheet) as a percentage of total sales (or total assets).
* Ratio analyses compare one or more financial statement items to an amount for other items for the same year. Ratios take into account differences in the size of amounts to allow for evaluations of performance given existing levels of other company resources.

**LO 13-2 Use horizontal (trend) analyses to recognize financial changes that unfold over time.**

* Trend analyses involve computing the dollar amount by which each account changes from one period to the next and expressing that change as a percentage of the balance for the prior period.

**LO 13-3 Use vertical (common size) analyses to understand important relationships within financial statements.**

* Vertical (common size) analyses indicate the proportions within each financial statement category.

**LO 13-4 Calculate financial ratios to assess profitability, liquidity, and solvency.**

* Financial ratios are commonly classified with relation to profitability, liquidity, or solvency. Exhibit 13.5 lists common ratios in these three categories and shows how to compute them.
* Profitability ratios focus on measuring the adequacy of a company’s income by comparing it to other items reported on the financial statements.
* Liquidity ratios measure a company’s ability to meet its current debt obligations.
* Solvency ratios measure a company’s ability to meet its long-term debt obligations.

**LO 13-5 Interpret the results of financial analyses.**

* Financial analyses are not complete unless they lead to an interpretation that helps financial statement users understand and evaluate a company’s financial results.
* An understanding of whether a business is successful emerges only after you have learned to combine analyses into a complete picture or story that depicts the company’s performance.
* To assist in developing this picture or story, most analysts compare to benchmarks such as the company’s performance in prior years or to competitors’ performance in the current year.

# Chapter Summary, continued

**LO 13-6 Describe how analyses depend on key accounting decisions and concepts.**

* Before comparing across companies or time periods, users should determine the extent to which differences in accounting decisions (e.g., methods used to account for inventory, depreciation, contingent liabilities, etc.) might reduce comparability or consistency of the financial information being compared.
* Many accounting concepts were presented throughout earlier chapters, all of which aim to make accounting information more useful for creditors and investors. Two new concepts were explained in this chapter:
* Going-concern (continuity) assumption—a business is assumed to continue to operate into the foreseeable future.
* Full disclosure principle—a company’s financial statements should provide all information that is important to users’ decisions.

***Accounting Decision Tools***

* See Exhibit 13.5 for a summary.

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| Chapter Outline | Teaching Notes |
| I. Understand the Business |  |
| ***LO 13-1 Describe the purposes and uses of horizontal, vertical, and ratio analyses.*** | |
| A. Horizontal, Vertical and Ratio Analysis |  |
| 1. Horizontal (trend) analyses are conducted to help financial statement users recognize important financial changes that unfold over time. |  |
| a. Horizontal analysis compares individual financial statement line items horizontally (from one period to the next), with the general goal of identifying significant sustained changes (trends). |  |
| b. These changes are typically described in terms of dollar amounts and year-over-year percentages. |  |
| 2. Vertical analyses focus on important relationships between items on the same financial statement. |  |
| a. These items are compared vertically (one account balance versus another). |  |
| b. These items are typically expressed as percentages to reveal the relative contributions made by each financial statement item. |  |
| 3. Ratio analyses are conducted to understand relationships among various items reported in one or more of the financial statements. |  |
| 4. No analysis is complete unless it leads to an interpretation that helps financial statement users understand and evaluate a company’s financial results. | * Supplemental Enrichment Activity (Activity) #1 |
| II. Study the Accounting Methods |  |
| ***LO 13-2 Use horizontal (trend) analyses to recognize financial changes that unfold over time.*** | |
| A. Horizontal (Trend) Computations |  |
| 1. **Horizontal analyses**—Comparing across time, often expressing changes in account balances as a percentage of prior year balances. | Illustrated in Exhibits 13.1 and 13.2 |
| 2. **Time-series analyses**—Compare changes in account balances over a series of time periods. |  |
| 3. Year-to-Year Change (%) = (Change This Year divided by Prior Year’s Total) ×100 or, in other words,  (Current Year’s Total − Prior Year’s Total) divided by Prior Year’s Total) × 100. |  |
| ***LO 13-3 Use vertical (common size) analyses to understand important relationships within financial statements.*** | |
| B. Vertical (Common Size) Computations |  |
| 1. **Vertical (common size) analyses**—Expressing each financial statement amount as a percentage of another amount on the same financial statement. |  |

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| Chapter Outline | Teaching Notes |
| a. When a company is growing or shrinking overall, it is difficult to tell from the dollar amounts whether the proportions within each statement category are changing. |  |
| b. Common size financial statements provide this information by expressing each financial statement amount as a percentage of another amount on that statement. |  |
| 2. In a common size balance sheet, each asset appears as a percent of total assets, and each liability or stockholders’ equity item appears as a percent of total liabilities and stockholders’ equity. | Illustrated in Exhibit 13.3 |
| 3. The common size income statement reports each income statement item as a percentage of sales. | Illustrated in Exhibit 13.4 |
| ***LO 13-4 Calculate financial ratios to assess profitability, liquidity, and solvency.*** | |
| C. Ratio Computations |  |
| 1. **Ratio analyses**—Help financial statement users to understand relationships among various items reported in the financial statements. |  |
| 2. This type of analysis compares the amounts for one or more line items to the amounts for other line items in the same year. |  |
| 3. Most analysts classify ratios into three categories of performance: | * Activity #2 |
| a. **Profitability**—The extent to which a company generates income. |  |
| b. **Liquidity**—The extent to which a company is able to pay its currently maturing obligations. |  |
| c. **Solvency**—The ability to survive long enough to repay lenders when debt matures. |  |
| 4. Profitability Ratios include: | Illustrated in Exhibit 13.5 |
| 1. **Net profit margin** = (Net income divided by Net sales revenue) × 100 2. **Gross profit percentage** = (Net sales revenue − Cost of goods sold) divided by Net sales revenue 3. **Fixed asset turnover** = Total revenue divided by Average net fixed assets 4. **Return on equity (ROE)** = [(Net income − Preferred dividends) divided by Average common stockholders’ equity] × 100 5. **Earnings per share (EPS)** = (Net income − Preferred dividends) divided by Average number of common shares 6. **Price/earnings (P/E) ratio** = Stock price divided by EPS | * Activity #3 |

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| Chapter Outline | Teaching Notes |
| 5. Liquidity Ratios include: | Illustrated in Exhibit 13.5 |
| 1. **Receivables turnover** = Net sales revenue divided by Average net receivables 2. **Days to collect** = 365 divided by Receivables turnover ratio 3. **Inventory turnover** = Cost of good sold divided by Average inventory 4. **Days to sell** = 365 divided by Inventory turnover ratio 5. **Current ratio** = Current assets divided by Current liabilities | * Activity #3   The “Spotlight on Business Decisions” feature explains how Lowe’s helps suppliers collect on account |
| 6. Solvency Ratios include: | Illustrated in Exhibit 13.5 |
| 1. **Debt-to-assets** = Total liabilities divided by Total assets 2. **Times interest earned** = (Net income + Interest expense + Income tax expense) divided by Interest expense | * Activity #3 |
| III. Evaluate the Results |  |
| ***LO 13-5 Interpret the results of financial analyses.*** | |
| A. Interpreting Horizontal and Vertical Analyses |  |
| 1. Financial statement analyses are not complete unless they lead to interpretations that help users understand and evaluate a company’s financial results. |  |
| 2. Goals should be to understand what each analysis is telling you and then combine your findings into a coherent “story” that explains the results of the company’s business activities. |  |
| 3. Trends Revealed in Horizontal Analyses |  |
| a. Horizontal (trend) analysis of a company’s balance sheet reveals whether a company grew during the year and indicates whether the company changed its reliance on debt vs. equity financing. | Refer to Exhibit 13.1 |
| b. Horizontal analysis of a company’s income statement highlights key changes in its operations. | Refer to Exhibit 13.2 |
| 4. Relationships Noted in Vertical Analyses |  |
| a. Vertical (common size) analysis of a company’s balance sheet highlights key elements of the company. | Refer to Exhibit 13.3 |
| b. Vertical (common size) analysis of a company’s income statement reveals the most important determinants of the company’s profitability. | Refer to Exhibit 13.4 |

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| Chapter Outline | Teaching Notes |
| B. Interpreting Ratio Analyses | Refer to Exhibit 13.5 |
| 1. Benchmarks, which help when interpreting a company’s ratios, can include the company’s prior year results, as well as the results of close competitors or the average for the industry. |  |
| 2. Industry averages are reported: |  |
| a. In the *Annual Statement Studies*, published by the Risk Management Association, at <statementstudies.org>. |  |
| b. By reuters.com/finance or google.com/finance. |  |
| 3. Profitability Ratios—The analyses in this section focus on the level of profits the company generated during the period. |  |
| 4. Liquidity Ratios—The analyses in this section focus on the company’s ability to survive in the short term, by converting assets to cash that can be used to pay current liabilities as they come due. | Refer to Exhibit 13.5 |
| 5. Solvency Ratios—The analyses in this section focus on the company’s ability to survive over the long term—that is, its ability to repay debt when it matures, pay interest until that time, and finance the replacement and/or expansion of long-term assets. | Refer to Exhibit 13.5 |
| ***LO 13-6 Describe how analyses depend on key accounting decisions and concepts.*** | |
| C. Underlying Accounting Decisions and Concepts |  |
| 1. Accounting Decisions |  |
| a. Differences between the two companies’ financial ratios might be caused by differences in their accounting decisions. |  |
| b. Information about a company’s accounting decisions is presented in a note to the financial statements. | Illustrated in Exhibit 13.6 |
| 2. Accounting Concepts |  |
| a. The Conceptual Framework for Financial Accounting and Reporting is summarized in Exhibit 13.7. |  |
| i. The primary objective of financial accounting and reporting is to provide useful financial information for people external to a company to use in making decisions about the company. |  |
| ii. To be useful, this information must be relevant and faithfully represent the underlying business. |  |
| 3. Two additional accounting concepts *(not addressed in previous chapters)*: |  |
| a. **Going-concern assumption**––A business is assumed to be capable of continuing its operations long enough to realize the economic benefits of its assets and meet its obligations in the normal course of business. |  |
| b. **Full disclosure principle**––The financial statements should present information needed to understand the financial results of the company’s business activities. |  |

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| Chapter Outline | Teaching Notes |
| IV. Supplement 13A: Nonrecurring and Other Special Items |  |
| ***LO 13-S1 Describe how nonrecurring and other comprehensive income items are reported.*** | |
| A. Nonrecurring Items |  |
| 1. Until 2005, three different types of nonrecurring items were reported in income statements: discontinued operations, extraordinary items, and the cumulative effects of changes in accounting methods. |  |
| 2. New accounting standards have nearly eliminated income statement reporting of extraordinary items and the cumulative effects of changes in accounting methods. |  |
| 3. The cumulative effects of changes in accounting methods are reported as adjustments to Retained Earnings rather than as part of the income statement in the period when the change is made. | *Covered in Intermediate Accounting.* |
| 4. **Discontinued operations**––Result from the disposal of a major component of the business and are reported net of income tax effects. | Illustrated in Exhibit 13A.1 |
| a. The results of an abandoned or sold business unit for the current year are reported on a separate line of the income statement immediately after Income Tax Expense. |  |
| b. This discontinued operations line includes any gain or loss on disposal of the discontinued operation as well as any operating income generated before its disposal. |  |
| c. Because it appears below the Income Tax Expense line, any additional tax effects related to the gains or losses are included in the reported amounts. |  |
| B. Other Items in Comprehensive Income |  |
| 1. **Comprehensive income** = Net Income + Other Comprehensive Income (OCI); OCI includes gains and losses arising from changes in the values of certain assets and liabilities. | *Covered in Intermediate Accounting courses.* |
| a. These items represent gains or losses relating to changes in the value of certain balance sheet accounts. |  |
| b. While most gains and losses are included in the computation of net income, some (relating to changes in foreign currency exchange rates and the value of certain investments, for example) are excluded from net income and included only in comprehensive income. |  |
| V. Supplement 13B: Reviewing and Contrasting IFRS and GAAP |  |
| ***LO 13-S2 Describe significant differences between GAAP and IFRS.*** | |
| A. Overview |  |
| 1. Generally speaking, IFRS and GAAP are similar. |  |
| a. Both aim to guide businesses in reporting financial information that is relevant and that faithfully represents the underlying activities of businesses. |  |

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| Chapter Outline | Teaching Notes |
| b. At a basic level, these accounting rules describe: |  |
| i. When an item should be recognized. |  |
| ii. How that item should be classified (e.g., asset or expense, revenue or liability). |  |
| iii. How the amount at which each item should be measured. |  |
| c. Although some exceptions exist, both IFRS and GAAP require that items be recorded only after an exchange between the company and another party. |  |
| i. Initially, these items are recorded at the value they enter the company (called the entry price or historical cost). |  |
| ii. Later, this value may be revised (upwards or downwards) as a result of events or changes in circumstances. |  |
| iii. The new value may be  (a) The entry price adjusted for items such as  interest, depreciation, and amortization,  (b) A current market price, or  (c) Another computed amount (such as the fair  value or exit price that the company would  receive or pay in the future for that item). |  |
| d. Many differences between IFRS and GAAP relate to cases where IFRS requires or allows companies to report items using values that differ from those required or allowed by GAAP. |  |
| B. Specific Topics Integrated in Earlier Chapters |  |
| 1. Chapter 1: Discusses the joint work of the Financial Accounting Standards Board and the International Accounting Standards Board to establish accounting rules and a unified conceptual framework. |  |
| 2. Chapter 7: Explains that IFRS prohibits LIFO and discusses the potential financial impact of switching to from FIFO to LIFO. |  |
| 3. Chapter 9:   * 1. Discusses IFRS’s accounting for component costs.   2. Discusses IFRS’s accounting for R&D and revaluation at fair value. |  |
| 4. Chapter 10: |  |
| a. Discusses IFRS’s current classification of long-term debt involving violated loan covenants. |  |
| b. Discusses IFRS’s threshold for accruing contingent liabilities. |  |
| 5. Chapter 11: Discusses classification of certain preferred stock as a liability. |  |
| 6. Chapter 12: Illustrates differences in classification of dividends and interest received and paid, under IFRS and GAAP. |  |

# Supplemental Enrichment Activities

Note: These activities would be suitable for individual or group activities.

1. Unless you used it in connection with Chapter 1, consider showing the first segment of following video in class; most students will be able to identify with the “fraudster.” Lively discussion of the manner in which the fraud was perpetrated will follow.

The National Association of Certified Fraud Examiners produced a video in 1991 called "Cooking the Books: What Every Accountant Should Know about Fraud." If you do not have the tape, the toll free number to order it is 1-800-245-3321, or visit the web site at <http://www.cfenet.com>. At this writing, the cost to a college or university is $139.00 for nonmembers. Three frauds are overviewed: ZZZZ Best Carpet, Regina Vacuum Cleaner Company, and ESM Group, Inc. (ESM Government Securities). ZZZZ Best Carpet might be the best one to use. Barry Minkow, the CEO and major stockholder, is interviewed in prison. The video segment discusses revenue overstatements, deferred costs, asset valuations, inadequate disclosures, and horizontal and vertical analysis. It is very well done.

1. Handout 13–1

Use Handout 13–1 for an in-class activity designed to review the classification of financial ratios. The solution follows the handout master.

1. Handout 13–2

Use Handout 13–2 for an in-class activity designed to review the formulas of financial ratios. The solution follows the handout master.

# HANDOUT 13–1

# CLASSIFICIATON OF FINANCIAL RATIOS

Indicate whether each of the following financial ratios would be classified as a profitability, liquidity, or solvency ratio when performing ratio analysis.

|  |  |  |  |
| --- | --- | --- | --- |
| Financial Ratio | Profitability Ratio | Liquidity Ratio | Solvency Ratio |
| Current Ratio |  |  |  |
| Days to Collect |  |  |  |
| Days to Sell |  |  |  |
| Debt-to-Assets |  |  |  |
| Earnings per Share (EPS) |  |  |  |
| Fixed Asset Turnover |  |  |  |
| Gross Profit Percentage |  |  |  |
| Inventory Turnover |  |  |  |
| Net Profit Margin |  |  |  |
| Price/ Earnings Ratio |  |  |  |
| Receivables Turnover |  |  |  |
| Return on Equity (ROE) |  |  |  |
| Times Interest Earned |  |  |  |

# HANDOUT 13–1 SOLUTION

# CLASSIFICIATON OF FINANCIAL RATIOS

Indicate whether each of the following financial ratios would be classified as a profitability, liquidity, or solvency ratio when performing ratio analysis.

|  |  |  |  |
| --- | --- | --- | --- |
| Financial Ratio | Profitability Ratio | Liquidity Ratio | Solvency Ratio |
| Current Ratio |  | X |  |
| Days to Collect |  | X |  |
| Days to Sell |  | X |  |
| Debt-to-Assets |  |  | X |
| Earnings per Share (EPS) | X |  |  |
| Fixed Asset Turnover | X |  |  |
| Gross Profit Percentage | X |  |  |
| Inventory Turnover |  | X |  |
| Net Profit Margin | X |  |  |
| Price/ Earnings Ratio | X |  |  |
| Receivables Turnover |  | X |  |
| Return on Equity (ROE) | X |  |  |
| Times Interest Earned |  |  | X |

# HANDOUT 13–2

# FINANCIAL RATIO FORMULAS

Match each of the following financial ratios with its formula:

Ratios:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Current Ratio |  | Inventory Turnover |
|  | Days to Collect |  | Net Profit Margin |
|  | Days to Sell |  | Price/Earnings (P/E) Ratio |
|  | Debt-to-Assets |  | Receivables Turnover |
|  | Earnings Per Share (EPS) |  | Return on Equity (ROE) |
|  | Fixed Asset Turnover |  | Times Interest Earned |
|  | Gross Profit Percentage |  |  |
|  |  |  |  |

Formulas:

1. Cost of sales divided by Average inventory
2. Current assets divided by Current liabilities
3. Stock price divided by EPS
4. Total liabilities divided by Total assets
5. 365 divided by Inventory turnover ratio
6. (Net income minus Preferred dividends) divided by Average number of common shares
7. (Net income minus Preferred dividends) divided by Average common stockholders’ equity
8. (Net income divided by Net sales revenue) × 100
9. (Net income + Interest expense + Income tax expense) divided by Interest expense
10. [(Net sales revenue − Cost of goods sold) divided by Net sales revenue] × 100
11. Total revenue divided by Average net fixed assets
12. Net sales revenue divided by Average net receivables
13. 365 divided by Receivables turnover ratio

# HANDOUT 13–2 SOLUTION

# FINANCIAL RATIO FORMULAS

Match each of the following financial ratios with its formula:

Ratios:

|  |  |  |  |
| --- | --- | --- | --- |
| B | Current Ratio | A | Inventory Turnover |
| M | Days to Collect | H | Net Profit Margin |
| E | Days to Sell | C | Price/Earnings (P/E) Ratio |
| D | Debt-to-Assets | L | Receivables Turnover |
| F | Earnings Per Share (EPS) | G | Return on Equity (ROE) |
| K | Fixed Asset Turnover | I | Times Interest Earned |
| J | Gross Profit Percentage |  |  |
|  |  |  |  |

Formulas:

1. Cost of sales divided by Average inventory
2. Current assets divided by Current liabilities
3. Stock price divided by EPS
4. Total liabilities divided by Total assets
5. 365 divided by Inventory turnover ratio
6. (Net income minus Preferred dividends) divided by Average number of common shares
7. (Net income minus Preferred dividends) divided by Average common stockholders’ equity
8. (Net income divided by Net sales revenue) × 100
9. (Net income + Interest expense + Income tax expense) divided by Interest expense
10. [(Net sales revenue ÷ Cost of goods sold) divided by Net sales revenue] × 100
11. Total revenue divided by Average net fixed assets
12. Net sales revenue divided by Average net receivables
13. 365 divided by Receivables turnover ratio