CHAPTER 5

**FINANCIAL STATEMENT ANALYSIS**

## LEARNING OBJECTIVES

1. How analysts use historical financial statements in financial statement analysis.
2. How to calculate and interpret operating, credit, and investment ratios.
3. How to prepare a trend analysis of a company’s financial ratios.
4. How analysts use financial statement analysis to help prepare a valuation forecast.
5. The cautions analysts must consider when using financial statement analysis.

## TRUE/FALSE QUESTIONS

1. The purpose of financial statement analysis is not only to understand the historical results of financial statements but also to use that information to forecast the future.

**(easy, L.O. 1, Introduction, true)**

1. Operating ratios measure a firm’s ability to repay its obligations.

**(moderate, L.O. 2, Section 1, false)**

1. One of the common credit ratios is the return on capital ratio.

**(moderate, L.O. 2, Section 1, false)**

1. The revenue growth rate is a ratio that measures the expansion or contraction of the business.

**(moderate, L.O. 2, Section 1, true)**

1. A ratio is most meaningful when the numerator and denominator are related to each other.

**(easy, L.O. 2, Section 1, true)**

1. When an interest coverage ratio is computed, the lower the result, the better the firm’s ability to make interest payments.

**(difficult, L.O. 2, Section 1, false)**

1. The MB ratio is a popular metric used to determine the relationship between the market price of a stock and its earnings power as measured by earnings per share.

**(moderate, L.O. 2, Section 1, false)**

1. The only ratio that measures return on investment is the return on common equity.

**(moderate, L.O. 2, Section 1, false)**

1. The benchmark used in cross-sectional analysis is the prior performance of the firm currently undergoing analysis.

**(moderate, L.O. 3, Section 2, false)**

1. A firm “cannibalizes” its revenue when it adds additional store locations into an area in which the firm already has existing stores.

**(moderate, L.O. 3, Section 2, true)**

1. The benchmark used in trend analysis is a given firm’s performance over a period of time.

**(easy, L.O. 3, Section 2, true)**

1. When analyzing revenue growth in trend analysis, often the analyst will not only look at overall revenue growth rates but also at revenue growth by business segment.

**(moderate, L.O. 3, Section 2, true)**

1. Cause-of-action analysis is a special kind of evaluation in which the reasons for a change in a specific item over some period are identified.

**(moderate, L.O. 3, Section 2, false)**

1. In cross-sectional analysis, we compare two or more companies using financial ratios, and we may also compare the companies’ ratios to an industry average.

**(moderate, L.O. 4, Section 3, true)**

1. In doing ratio analysis, we must recognize that different firms provide different levels of disclosure.

**(easy, L.O. 5, Section 3, true)**

## MULTIPLE CHOICE QUESTIONS

1. In financial analysis, ratios are used to help us learn about the firm’s:

a. profitability

b. growth and potential for growth

c. resource needs

d. All of the above answers are correct.

**(easy, L.O. 1, Introduction, d)**

1. A ratio that is used to evaluate a firm’s operating margin percentage is classified as:

a. a specialty ratio

b. an investment ratio

c. a credit ratio

d. an operating ratio

**(moderate, L.O. 2, Section 1, d)**

1. A ratio that measures income taxes to revenues is:

a. relatively meaningless since it tells us little about the income tax rate or the profitability of the firm

b. an excellent metric since it compares the effective rate of income tax to the profitability of the firm

c. classified as a common investment ratio

d. complimentary to the return on common equity ratio

**(difficult, L.O. 2, Section 1, a)**

1. The only operating ratio that uses the cost of sales in its numerator is the:

a. market-to-book ratio

b. quick ratio

c. inventory turnover ratio

d. days payables outstanding ratio

**(moderate, L.O. 2, Section 1, c)**

1. An operating ratio, such as the inventory turnover ratio, varies greatly by industry. An example of a business with a high inventory turnover ratio is a:
2. watch repair shop
3. grocery store
4. jewelry retailer
5. CPA firm

**(moderate, L.O. 2, Section 1, b)**

1. To help determine whether a business should extend credit to various other businesses, an analyst will look at credit ratios. The ratio that measures the speed with which the firm can pay its obligations with cash, cash equivalents, and short-term investments is known as the:
2. days payables outstanding ratio
3. debt to capital ratio
4. current ratio
5. quick ratio

**(moderate, L.O. 2, Section 1, d)**

1. The denominator in the debt to capital ratio consists of:

a. debt, minority interest, and equity

b. the total obligations of the firm

c. the total equity of the firm

d. net income, common and preferred stock, and retained earnings

**(difficult, L.O. 2, Section 1, a)**

1. Investors and managers use the price-to-earnings and market-to-book ratios to:
2. primarily measure business performance
3. primarily screen potential investments
4. measure business performance *and* screen potential investments
5. track the efficiency of leverage in capital spending in both foreign and domestic markets

**(moderate, L.O. 2, Section 1, c)**

1. The \_\_\_\_\_\_\_\_\_\_ ratio uses net income in its numerator while the \_\_\_\_\_\_\_\_\_\_ ratio uses diluted earnings per share in its denominator.
2. return on common equity; market-to-book
3. return on common equity; price-to earnings
4. return on capital; market-to-book
5. return on capital; price-to-earnings

**(moderate, L.O. 2, Section 1, b)**

1. A ratio has little meaning until it is compared to a benchmark. Financial analysts use several common benchmarks to help them better understand and interpret financial ratios. The benchmark in which ratios from several different companies or an industry segment are analyzed is known as a:

a. cross-sectional analysis

b. trend analysis

c. cause-of-change analysis

d. cause-of-action analysis

**(easy, L.O. 3, Section 2, a)**

1. A thorough financial analysis includes any adjustments to the financial statements that are necessary to develop useful forecasts. Such forecasts are used in the analyst’s valuation work. An example of an adjustment made to understand a business more completely for purposes of valuation is to:

a. change financial statement items even though such adjustment may not be per GAAP

b. change financial statement items that may incorporate accounting policies different than that of the firm

c. exclude a financial statement item such as joint venture income

d. All of the answers above are correct.

**(moderate, L.O. 4, Section 3, d)**

1. An analyst can restate each item on an income statement as a percentage of revenues. This will afford the analyst an opportunity to factor out size differences among statements of various firms. What is this restatement known as and with which method can it be used?

a. change of accounting principle restatement; cross-sectional analysis only

b. change of accounting principle restatement; trend or cross-sectional analysis

c. common-size income statement; trend or cross-sectional analysis

d. common-size income statement; trend analysis only

**(moderate, L.O. 4, Section 3, c)**

1. Identify the ratio that **cannot** be computed given the following information for a firm: Current assets are $475,806; current liabilities are $257,814; cash is $89,774; earnings before interest and taxes is $72,005; short-term investments, $145,850; equity, $192,615; minority interest, $0; interest expense, $47,899.

a. current

b. quick

c. debt to capital

d. interest coverage

**(difficult, L.O. 2, Section 2, c)**

1. Identify the ratio that can be computed given the following information for a firm: Current assets are $475,806; current liabilities are $257,814; cash is $89,774; earnings before taxes is $72,005; short-term investments, $145,850; equity at end of period, $192,615; minority interest, $0; income taxes, $11,211; interest expense, $47,899.

a. return on capital

b. effective income tax rate

c. gross margin percentage

d. inventory turnover

**(difficult, L.O. 2, Section 2, b)**

1. Identify the ratio that **cannot** be computed given the following information for a firm: Diluted earnings per share, $3.57; market price of the firm’s stock, $47.75; average common equity, $879,550; net income, $99,772; average total capital, $625,740; aftertax interest expense, $14,885.

a. price-earnings

b. market-to-book

c. return on common equity

d. return on capital

**(difficult, L.O. 2, Section 2, b)**

1. A firm has the following growth rates for the last four years: 2000, 39.8%; 2001, 34.2%; 2002, 28.4%; 2003, 29.1%. From a standpoint of trend analysis, what conclusion might an analyst reach regarding the firm’s revenue growth?

a. The trend analysis indicates the firm has had flat revenue growth over time.

b. The trend analysis indicates the firm has had diminished revenue growth over time.

c. The trend analysis indicates the firm has had moderately increasing revenue growth over time.

d. The trend analysis indicates the firm has had significant, but slowing, revenue growth over time.

**(moderate, L.O. 4, Section 3, d)**

1. A firm has the following operating income rates for the last four years: 2000, 9.0%; 2001, 8.9%; 2002, 9.1%; 2003, 8.8%. From a standpoint of trend analysis, what conclusion might an analyst reach regarding the firm’s revenue growth?

a. The trend analysis indicates the firm’s operating income has been flat over time.

b. The trend analysis indicates the firm’s operating income has materially declined over time and is cause for investor concern.

c. The trend analysis indicates the firm’s operating income has been increasing at a fiscally healthy rate over time.

d. The conclusion is indeterminable from the information given.

**(easy, L.O. 4, Section 3, a)**

1. There are two key ratios that measure operating profitability. The numerator for the \_\_\_\_\_\_\_\_\_\_ ratio uses income while the \_\_\_\_\_\_\_\_\_\_ ratio uses revenues less cost of goods sold in its computation.

a. gross margin percentage; operating margin percentage

b. operating margin percentage; gross margin percentage

c. quick; operating margin percentage

d. current; gross margin percentage

**(moderate, L.O. 2, Section 2, b)**

1. The analyst must exercise caution when using ratios as part of the analysis of a firm. The fact that ratios often vary across industries is an example of what is called:

a. an accounting method discrepancy

b. an industry and business difference

c. a business environment change

d. an ambiguous ratio definition

**(moderate, L.O. 5, Section 4, b)**

35. Select the answer that best fits this statement, “Analysts define ratios differently.”

a. What some analysts call trend analysis others call cross-sectional analysis.

b. What some analysts call the current ratio is called the quick ratio by others.

c. The numerator used in the return on capital ratio may vary.

d. The income statement is restated in non-GAAP terms.

**(moderate, L.O. 5, Section 4, c)**

36. Ratios often aid analysts to project the future. Such projections require the adjustment of certain items found on the financial statements. One such item that should be adjusted in such a projection is:

a. removing an extraordinary item from the income statement

b. removing revenue from the income statement

c. the earnings-per-share calculation when there are no dilutive or anti-dilutive items

d. the reconciliation of cash on the balance sheet

**(difficult, L.O. 5, Section 4, a)**

## ESSAYS

37. Discuss the three categories of common ratios.

Suggested solution:

Common ratios are grouped into three categories as follows:

* Operating
* Credit
* Investment

Operating ratios help the analyst better understand the profitability and cash flow of a business. Examples of operating ratios include revenue growth rate, operating margin percentage, and inventory turnover. Credit ratios involve determining the ability of the business to pay its obligations. Examples of credit ratios include the current, quick, debt-to-capital, and interest coverage ratios. Investment ratios are measures of the total performance of a business. Investment ratios are typically used in conjunction with operating ratios to screen potential investments. Examples of investment ratios include the price-to-earnings, market-to-book, return-on-capital, and return-on-common equity.

These ratios are called “common” since they are widely used for financial statement analysis, investment decision making, and for business valuation. The specific list of ratios that can be included in each category varies by analyst, because there is no “official” list that all analysts must adopt and use in this area. Of the three categories, operating ratios are used more extensively in the area of valuation process than credit or investment ratios.

**(moderate, L.O. 1 & 2, Section 1)**

38. Explain the major differences between trend and cross-sectional analysis.

Suggested solution:

Trend and cross-sectional analyses are important tools that are used in conjunction with ratio analysis for valuation purposes. The use of ratios in and of themselves have little meaning unless they are compared to some type of benchmark. Trend and cross-sectional analyses provide the necessary benchmarks that, when combined with ratio analysis, provide meaningful information that can be used in examining a firm as part of the valuation process.

Trend analysis looks at changes in ratios and key financial statement items over a period of time. Annual reports will often present financial statement information for several years, which gives the analyst the necessary information to conduct a trend analysis. This approach is often useful when the ultimate goal of analysis is valuation.

Cross-sectional analysis compares ratios across companies in the same industry, providing an industrial benchmark to be used when examining a specific firm within such an industry. In a cross-sectional analysis, the firm’s ratios may also be compared with industry averages from reporting agencies such as Moody’s, Dun & Bradstreet, and Robert Morris Associates. This type of analysis is helpful in understanding the differences in results across companies. Such analysis can also highlight business differences such as whether a firm uses a differentiated, high-quality strategy or a nondifferentiated, cost-focused strategy in its business pursuits.

**(moderate, L.O. 3 & 4, Section 2)**

39. Ratios are powerful tools that must be used with discretion and some caution. Comment on the cautions analysts must consider when using ratios in their analysis of a firm.

Suggested solution:

In general, analysts must use cautions when working with ratio analysis since there are a number of differences in accounting methods, estimates, and disclosures, as well as differences in businesses and industries, and even in the manner in which ratios are defined.

Differences in accounting methods, estimates, and/or disclosures will impact both trend and cross-sectional analyses. A firm’s financial statements may require adjustment when certain accounting methods are used in order to compare the firm’s figures to the industry figures. Management estimates may have to be adjusted by the analyst looking at a firm. Management estimates also can distort comparability among companies in the same industry. A firm’s level of disclosure may be higher or lower than that of other firms in the same industry, and so some adjustment may be necessary.

Ratios across industries vary substantially, and even ratios within the same industry may not be comparable. The analyst must be sensitive to such business and industry differences and make whatever adjustments are needed under the circumstances. The analyst must also examine changes in the business environment over time when using trend analysis. Certain business events that occurred might not recur, and the analyst must take such items into account.

Ratios are also defined differently by analysts, and so any comparison must be scrutinized to ensure that the ratios of one company have been computed in the same manner as the ratios of another. Specific items such as income, capital, and minority interest may be calculated differently, requiring close attention to the details of ratio calculation.

**(moderate, L.O. 5, Section 3)**