

# THE **A** **B** **C**s OF Accounting

## Lesson 9: Working with Financial Statements

**Online only**

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# Lesson Objectives

- After studying this lesson, you will be able to:
  - ▲ Explain the purpose of financial statement analysis
  - ▲ Explain the different ratios: liquidity, leverage, activity, and profitability
  - ▲ Compare financial statements over time using common-size techniques
  - ▲ Explain the limitations of financial statement analysis

# Financial Statement Analysis

- Relationship between financial statement numbers and their trends over a period of time
- Looking at past performance, will it predict future success?
- Looking at numbers for problem areas, are there areas where the numbers differ greatly?
- Relationship between amounts on financial statements are called financial ratios

# Calculate a Ratio

- Divide one number by the other number; result is the relationship between the top number to the bottom number
- $\text{Net Income} / \text{Sales} = \text{Return on Sales ratio}$
- This tells you how much profit the company made on each dollar of sales

# More About Ratios

- Ratio calculations provide more information when you compare them to other companies in the same industry of similar size
- If you can compare more than one year, even better
- This type of analysis should be used by everyone: managers, bankers, lenders, government agencies, employees, etc.

# Ratios: Four Basic Categories

- Liquidity
- Leverage
- Activity
- Profitability

# Liquidity Ratios

- Ratios that determine the ability of the company to pay off its short-term debts (less than 1 year old)
- Liquidity means how much cash the company can get together in an emergency situation
- These ratios include:
  - ▲ Current ratio
  - ▲ Acid test or quick ratio
  - ▲ Cash to current liabilities ratio

# Current Ratio

- Relationship between current assets and current liabilities
- What is the ability of the business to pay its current debts?
- The higher the value, the larger margin of safety the company has to cover short-term debts



# Current Ratio (cont'd)

- Using words:

(Cash + Receivables + Inventory)/Current Liabilities

- Using numbers:

$$10 / 5 = 2$$

- The business has \$2 of cash for every dollar of current debt
- Rule of thumb: Current Ratio less than 2 could suggest liquidity problems in the firm



# Acid Test Ratio (Quick)

- Represents true working capital:

- ▲ Cash, accounts receivable, prepaids, notes receivable

- ▲ Quick assets: cash and marketable securities

- Using words:

Total Quick Assets / Total Current Liabilities

- Using numbers:

$$100 / 185 = 0.54$$

- The business has 54 cents of cash for every dollar of current debt



# Cash to Current Liabilities

- Useful for it does not consider selling marketable securities, accounts receivable, or inventory
- Using words:

Total Cash / Current Liabilities

- Using numbers:

$$450 / 1,000 = 0.45$$

- The business has 45 cents of cash for every dollar of current debt
- Not a good sign; have at least \$1.00



# Leverage Ratios

- Leverage is the act of borrowing that permits a company to purchase more assets than the stockholders pay for through their investments
- Leverage ratios show the extent to which a company is using borrowed funds to purchase assets
- By using leverage, a company does not have to increase its equity

# Leverage Example

- Higher leverage means the company can borrow more money to purchase additional assets
- Additional assets generate increased sales
- Increased sales mean net income increases
- Your investors have \$5,000,000 invested in your firm
- To increase operating capital, you get \$10,000,000 from the bank
- Your firm is now worth \$15,000,000



# Leverage (cont'd)

- Investors like high leverage
  - ▲ Increases the size of the company without requiring additional investments
- Bankers like low leverage
  - ▲ Are concerned about debt repayment

# Leverage (cont'd)

- Major disadvantage of high leverage
  - ▲ If company were to go bankrupt:
    - ◆ The debtholders have first claim to the assets
    - ◆ The stockholders might be left with nothing on their original investment
- Key leverage ratios:
  - ▲ Debt ratio
  - ▲ Debt-to-Equity ratio
  - ▲ Interest coverage ratio



# Debt Ratio

- Tells what proportion of debt company is using to finance its assets

- Using words:

Total Liabilities / Total Assets

- Using numbers:

$$36,507 / 72,793 = 0.50$$

- If ratio is less than 1, the company has more assets than debt





# Debt-to-Equity Ratio

- Tells what proportion of equity and debt company is using to finance its assets

- Using words:

Total Liabilities / Owner's Equity or Net Worth

- Using numbers:

$$36,507 / 36,286 = 1.006$$

- The business has \$1.01 of equity or net worth to meet this obligation.

- $<1$  equity is financing the company;  $>1$  assets are financed with debt



# Interest Coverage Ratio

- Measures ability of company to service its debt with money earned from the primary source of business
- Using words:

Operating Income / Interest Expense

- Using numbers:

$$18,000 / 2,000 = 9$$

- The higher the ratio, the healthier the company
- $< 1$  could indicate company is having difficulty paying its interest



# Activity Ratios

- Show how efficient a company is in the use of its assets
- Three key activity ratios:
  - ▲ Sales to total assets
  - ▲ Receivables turnover
  - ▲ Inventory turnover

# Sales to Total Assets Ratio

- Tells us how much revenue the assets are providing the business (aka total assets turnover)
- Using words:

Sales / Total Assets

- Using numbers:

$$64,420 / 72,793 = 83\%$$

- The higher the ratio, the investment required in assets to generate sales is less
- No normal ratio; you want this high



# Receivables Turnover

- Tells us how quickly a company collects its accounts receivable
- Reported in a number of days, called collection period
- Using words:

Annual Credit Sales / Accounts Receivable

- Using numbers:

$$18,000 / 2,000 = 9 \text{ times}$$

**Now you have to divide to figure out the number of days in the collection period. Go to next slide.**



# Receivables Turnover (cont'd)

- To calculate the period directly:

- Using words:

Accounts Receivable / (Annual Credit Sales / 365)

- Using numbers:

$$2,000 / (18,000 / 365) = 40.56 \text{ days}$$

**Every industry has different normal collection periods.**



# Inventory Turnover

- Shows how often inventory replaced during accounting period
- Using words:

Cost of Goods Sold / Average Inventory

- Using numbers:

$500,000 / 50,000 = 10$  times

**The inventory was replaced 10 times during the accounting period.**



**The higher the turnover, the better the company is handling inventory.**



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# Profitability Ratios

- Show how successful a firm is in generating profits
- The higher the number, the better the performance of the organization
- Key ratios:
  - ▲ Gross Margin
  - ▲ Operating Margin
  - ▲ Return on Assets
  - ▲ Return on Equity



# Gross Margin

- The amount of each dollar in sales that the company keeps in the form of gross profit
- Gross profit: The difference between the sales and the cost of sales to the company
- Using words:

Gross Profit / Sales

- Using numbers:

$$48,822 / 60,420 = 0.81$$



**The higher the result, the better it is for the company. It can charge a premium for its goods or services.**



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# Operating Margin

- Shows how much a company makes or loses from its primary business per dollar of sales
- Using words:

Operating Income / Sales

- Using numbers:

$$22,492 / 60,420 = 0.37 \text{ or } 37\%$$



**The higher the result, the better it is for the company.**



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# Return on Assets

- Measures how effectively a company uses its assets to generate profits
- Using words:

Net Income / Total Assets

- Using numbers:

$$17,681 / 72,793 = 0.24 \text{ or } 24.29\%$$



**The higher the result, the better it is for the company.**

# Return on Equity

- Measures the profits earned for each dollar invested in the stock of the company
- Using words:

Net Income / Shareholder Equity

- Using numbers:

$$17,681 / 36,286 = 48.73\%$$



**The higher the result, the better it is for the company.**



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# Common-Size Financial Statements

- How can you compare one company to another?
  - ▲ Size
  - ▲ Services
  - ▲ Products
- Common-size financial statements are much better
  - ▲ Show all numbers as a percentage of sales for the year

# Limitations of Financial Statement Analysis

- Reference points are needed
- Ratios are subject to the limitations of the different accounting methods
- Industry category of the firm may be difficult to identify
- Seasonality can effect the ratios

# Summary

- Learned about financial statement analysis
- Learned about ratios
- Learned about common-size financial statements
- Be cautious when analyzing any company
- Do you have all relevant data?
- Techniques we learned can be applied to small firms, large firms, or firms you might want to invest in
- Key is to do the analysis right



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