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Financial Statement Analysis

Basis for Management Advice

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Table of Contents

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FINANCIAL STATEMENT ANALYSIS: BASIS FOR MANAGEMENT ADVICE

BY WALLACE DAVIDSON, PHD

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Chapter 1
Company Valuation

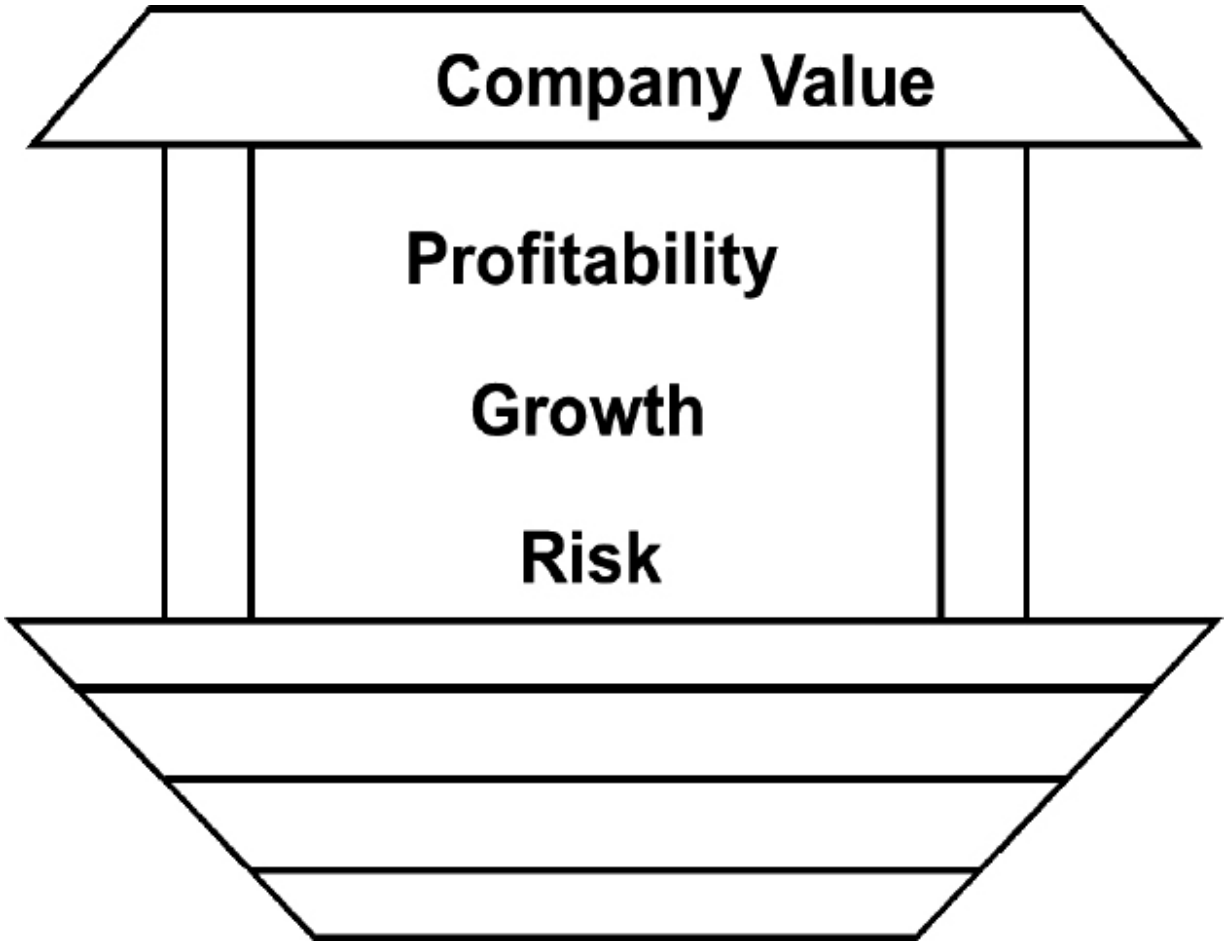
Learning objectives

- Identify how an analyst places a value on a company.
- Recognize who uses company valuations.

Introduction

This section shows the correct method for determining the value of a company using the constant growth dividend capitalization model. Explanations are presented of (1) the variables defined in the model and (2) the valuation techniques and who uses them.

Why use a valuation technique?



Financial information is an important determinant of company value. We need to know how the financial statements affect company value.

- How does increased profitability affect company value?
  - Profitability is positively related to company value. That is, as a company becomes more profitable its value increases.
- How does increased growth affect company value?
  - Growth is defined as the company's increasing ability to produce cash flows or profits. Growth is positively related to company value.
- How does increased risk affect company value? Liquidity risk? Financial risk?

– All types of risk reduce company value. Liquidity and financial risk can be measured from financial statements. As they increase, company value declines.

– A valuation technique is particularly important for small- and medium-sized companies. Large-company values are found in the security markets. Smaller companies do not have this luxury.

The value of a company is determined largely by its ability to earn a profit. We want to know how the interpretation of the company's financial statements affects the value of the company. The value of a company is, after all, a reflection of the owner's wealth.

Knowledge check

1. An increase in profitability will cause company value to
    a. Increase.
    b. Decrease.
    c. Not change.
    d. Either increase or decrease.
2. An increase in the growth rate will cause company value to
    a. Increase.
    b. Decrease.
    c. Either increase or decrease.
    d. Not change.
3. As risk increases, the value of a company will
    a. Increase.

b. Decrease.

c. Either increase or decrease.

d. Not change.

Who uses valuation techniques?

Owners

The *owner* of a company needs to know the company's value if he or she (1) is expecting to sell the company, or (2) is determining borrowing capacity.

Potential owners

The *potential owner* of a company must understand the concept of company value to determine how much to pay for the company.

Bankers

A *banker* must understand company value when determining a company's borrowing capacity or collateral value.

Security analysts

For large companies, *security analysts* spend considerable time with valuation techniques. This is not important for our purposes. We want to understand how financial statement information affects company value.

Our purpose in examining valuation is to give us a gauge by which we can determine the effect of the ratios on the company's value.

Wells Fargo “dividend capitalization” model

The value of a company’s equity is the present value of cash flows (dividends) that can be taken out of the company. Value is affected by the company’s cash earnings, the expected growth rate of cash earnings and the company’s risk. Cash earnings and growth are positively related to company value, whereas risk is negatively related to company value.

$$\text{Value of a company's equity} = \frac{FCF_1}{1+R} + \frac{FCF_2}{(1+R)^2} + \frac{FCF_3}{(1+R)^3} + \ldots$$

Mathematically this expression can be reduced to

$$\text{Value} = \frac{FCF_1}{R-G}$$

FCF = Funds that can be withdrawn from the business are called “free cash flow”

R = Risk adjusted rate of return

G = Expected growth rate

In the numerator, the expression FCF represents the company’s free cash flow. Free cash flow is the cash left over after all necessary investments have been made and expenses paid. Whenever we examine a ratio or other financial data that relates to a company’s earning power, valuation can be referred to. Specifically, if a company’s earning power increases (FCF goes up), then the value of the company will go up.

In the denominator, the expression R represents a company’s cost of equity capital. As a company’s risk increases, its cost of equity increases. It is important to note that if a company’s risk is increasing (liquidity or

financial risk), then its value is declining. As R rises, the company's equity value declines.

R is the rate of return required by equity holders. Because equity is riskier than debt to investors, R is greater than a company's cost of debt. In large companies, it has been estimated that R is roughly three percent greater than the company's cost of debt.

The second term in the denominator, G, represents the company's ability to grow in terms of earning power. As G rises, the value of the company will rise.

Knowledge Check

4. Assuming that a company's free cash flow is $125,000, its cost of capital is 12 percent and its expected growth rate is 2 percent, what would be our estimate for the company's value?
    a. $1,250,000.
    b. $750,000.
    c. $1,041,666.
    d. It is impossible to provide an estimate from these figures.
5. Assuming that a company's cost of capital increased from 12 percent to 14 percent while its expected growth rate remained at 2 percent and its free cash flow remained at $125,000, what would the value of the company be now?
    a. $750,000.
    b. $1,041,667.
    c. The value of the company would not change if its cost of capital increased.

d. It is impossible to estimate from these figures.

Dividend computation for privately-held corporation

What is the dividend capacity of a privately held company? This example will clarify the issue. Suppose that the owner of a company (C-corporation) pays a $150,000 salary to himself or herself for a job that he or she could hire an outside manager to do for $50,000. The owner's added salary is $100,000. This practice eliminates the double taxation of dividends.

Example	
Dividend paid	$75,000
Owner's salary	150,000
Equivalent manager's salary	50,000

The added salary of $100,000 was tax deductible as a salary, but it would not be tax deductible as a dividend. At a 50 percent tax rate, it would be worth only $50,000 as a dividend.

Real dividend computation	
Dividend paid	$75,000
Adjustment for salary	50,000*
Free cash flow	$125,000

* $100,000 (1 - .5) with an assumed 50% tax rate

Therefore, free cash flow represents the earning power of the company in terms of cash flows that the owner(s) may withdraw from the company. If a decision is made that increases the company's cash flows, then the company's value is increased. If a decision is made that increases the company's risk, then the value is decreased. Financial

statement analysis is used to measure both the risk and return of the company.

Note also that in valuing a business one should look for other inefficiencies that may reduce FCF and the value of the business.

Illustrative problem

Using the data in the example, estimate this company's value if it has a cost of capital of 12 percent and an expected growth rate of 2 percent.

Knowledge check

6. _____ cash flow is the cash flow after all necessary investments have been made and expenses paid.
    a. Free.
    b. Total.
    c. Positive.
    d. Negative.

How would you respond?

You are the CFO of a medium sized publicly traded company. The CEO and 25 percent owner of the company wants to sell her shares in the company and retire. She is thinking about engaging in a new risky venture that has the chance of dramatically increasing reported income. She hopes that this would increase the stock price. She has asked your opinion.

How would you respond? Things to consider...

- What would the increased risk do to the stock price?

- Because the project is risky, what are the chances of success?
- Does it improve cash flow if successful?
- Are there any legal issues to consider?

Review questions

1. Why should you use a particular valuation technique?

2. Who uses valuation techniques? Explain why each group of interested parties uses a valuation technique.

3. Which specific valuation technique should you use? Why?

4. Write out the equation for the constant growth dividend capitalization model. Define each variable and explain why each variable is used in the model.

5. Define the term free cash flow as it is used in a valuation model. Why is it used in this way?

6. When we speak of a growth ratio in a valuation model, of which growth rate are we speaking? Why?

Chapter 2
Ratio Analysis: The Effect Ratios

Learning objectives

- Identify which ratios are effect ratios.
- Distinguish what each of these ratios measures.
- Calculate each ratio.

Introduction

The effect ratios are used to determine the extent of a company's problems. Liquidity, leverage, and profitability measures are included.

The purpose of this chapter is to introduce you to the effect ratios. These ratios do not show the reason for a change; they only show that a change has occurred. The ratios show the magnitude of a change but do not record the reason for that change. The chapter does show how a change in any of the causal ratios can change each of the effect ratios. The nine effect ratios are the current ratio, inventory to working capital, receivables to working capital, net sales to working capital, debt to net worth, debt to assets, short-term debt to net worth, times interest earned, and return on equity.

Effect ratios

Liquidity measures

- Current ratio
- Quick ratio

- Defensive interval
- Cash conversion cycle
- Inventory/working capital
- Receivables/working capital
- Net sales/working capital
- Operating cash flow to current liabilities

Leverage measures

- Debt to net worth
- Debt to assets
- Tangible debt ratios
- Short-term debt to net worth
- Times interest earned
- Cash times interest earned
- Fixed charge coverage

Knowledge check

1. Which ratio is not a liquidity measure?
    a. Current ratio.
    b. Defensive interval.
    c. Times interest earned.
    d. All of the above are liquidity measures.

Profitability measures

- Return on Equity – Net Income/Net Worth

Three areas of concern are measured by financial statement characteristics. *Liquidity* is the measurement of how well the firm can meet its obligations in the short run. The second area is leverage. *Leverage* ratios measure the firm's debt usage and how well it can afford its debt. The third area is profitability. *Profitability* ratios are a measure of how profitable a firm is relative to its size.

Liquidity

The concept of liquidity can be easily explained as the ease with which a company can pay its bills. Companies that do not struggle to pay bills have adequate liquidity. Companies can have excessive liquidity since liquid assets tend to earn a low rate of return. Excessive liquidity can hurt profitability.

Four different aspects to liquidity are quantity, timing, quality, and early warning. The quantity of liquidity measures how much liquidity the company carries relative to its size. Timing aspects of liquidity measure how long the liquidity will last. Quality of liquidity is concerned with the makeup of the liquidity. Finally, there is an early warning ratio that measure liquidity in rapidly growing companies.

Liquidity category	**Ratios**
Quantity of liquidity	Current ratio
	Quick ratio
Timing of liquidity	Defensive interval
	Cash conversion cycle